No.01

MB460/MB470/MB480
Maintenance Manual

ODA/OEL/AOS

[Rev. 2]

Related drawings

Drawing No.	Name
44306601TL	MB460/MB470/MB480 Disassembly for Maintenance
44306601TR	MB460 RSPL
44306621TR	MB470 RSPL
44306641TR	MB480 RSPL

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Preface

This manual explains the maintenance methods of MB460/MB470/MB480.

This manual is prepared for the maintenance person. In regard to the handling methods of MB460/MB470/MB480, please refer to the User's Manual.

Note!
- Contents of this manual is subject to change without notice.
- While all reasonable efforts have been made to make this document as accurate and helpful as possible, we make no warranty of any kind, expressed or implied, as to the accuracy of the information contained herein. Oki Data assumes no responsibility to the damages caused or claimed to have been caused by the user as a result of repair, adjustment and/or change using this manual.
- Parts of this product are delicate and can be damaged unless properly handled. We strongly recommend the user to maintain the product at the hand of the registered maintenance person of our company
- Before starting the maintenance work, please neutralize the static electricity.

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1. CONFIGURATION

1.1 System Configuration

MB460

The system configuration of this product is shown in Figure 1-1-1.

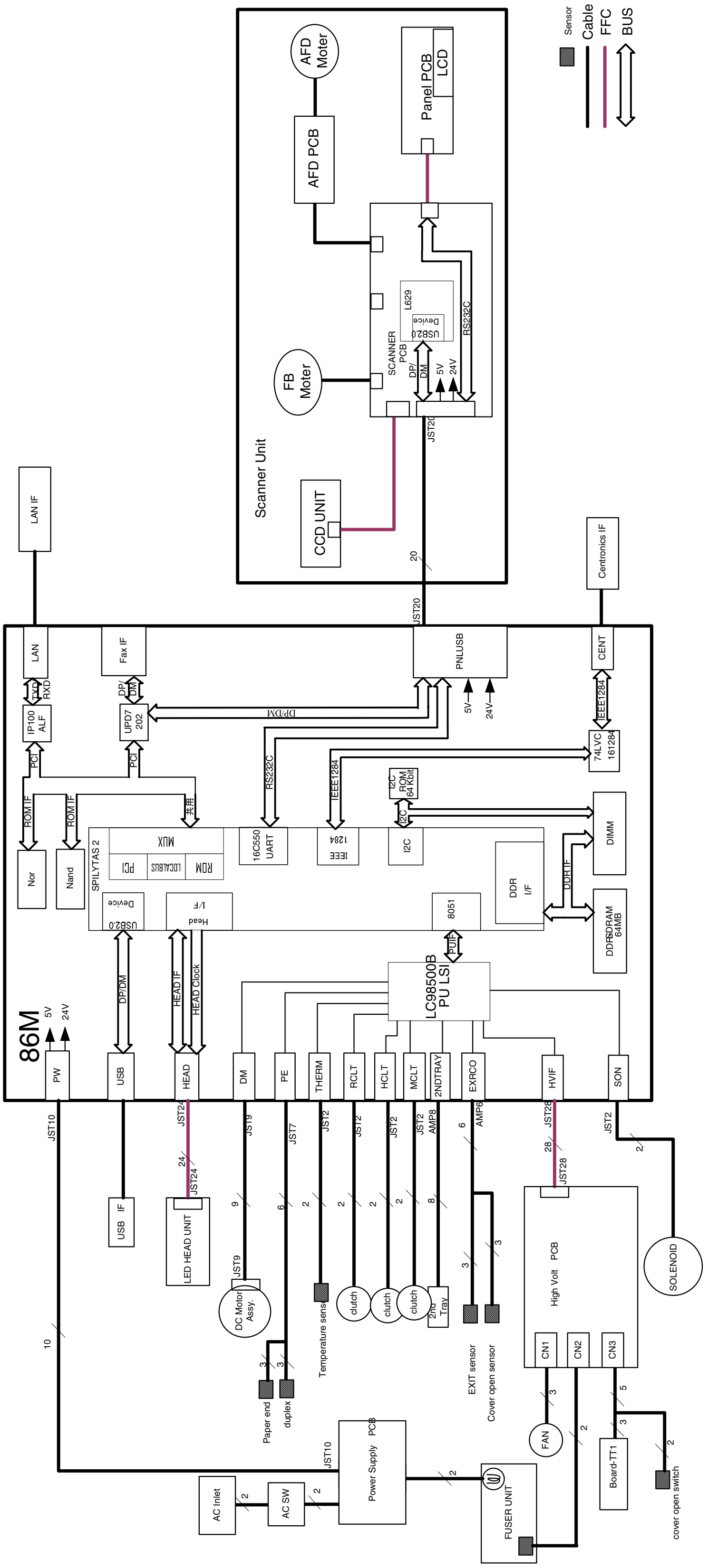

Sensor
Cable
FFC
BUS
Scanner Unit
AFD Moter
AFD PCB
Panel PCB
LCD
FB Moter
SCANNER PCB
L629
USB2.0 Device
RS232C
DP/ DM
5V
24V
JST20
CCD UNIT
20
LAN IF
Centronics IF
86M
LAN
TXD RXD
IP100 ALF
PCI
Fax IF
DP/ DM
UPD7 202
DP/DM
PNLUSB
CENT
IEEE1284
74LVC 161284
RS232C
IEEE1284
I2C ROM 64 Kbit
I2C
DIMM
DDR IF
DDRSDRAM 64MB
ROM IF
Nor
Nand
SPILYTAS 2
MUX
ROM
LOCALBUS
PCI
16C550 UART
IEEE 1284
I2C
DDR I/F
USB2.0 Device
Head I/F
8051
PUIF
LC98500B PU LSI
DP/DM
HEAD IF
HEAD Clock
PW
USB
HEAD
DM
PE
THERM
RCLT
HCLT
MCLT
2NDTRAY
EXRCO
HVIF
SON
JST10
JST24
JST19
JST7
JST12
AMP8
AMP6
JST28
JST2
24
28
9
6
2
8
3
USB IF
LED HEAD UNIT
JST9
DC Motor Assy.
Temperature sensor
clutch
clutch
clutch
2nd Tray
EXIT sensor
Cover open sensor
High Volt PCB
CN1
CN2
CN3
SOLENOID
10
Paper end
duplex
FAN
Board-TT1
cover open switch
5
Power Supply PCB
AC Inlet
AC SW
FUSER UNIT

Fig 1.1.1

MB470/MB480

The system configuration of this product is shown in Figure 1-1-2.

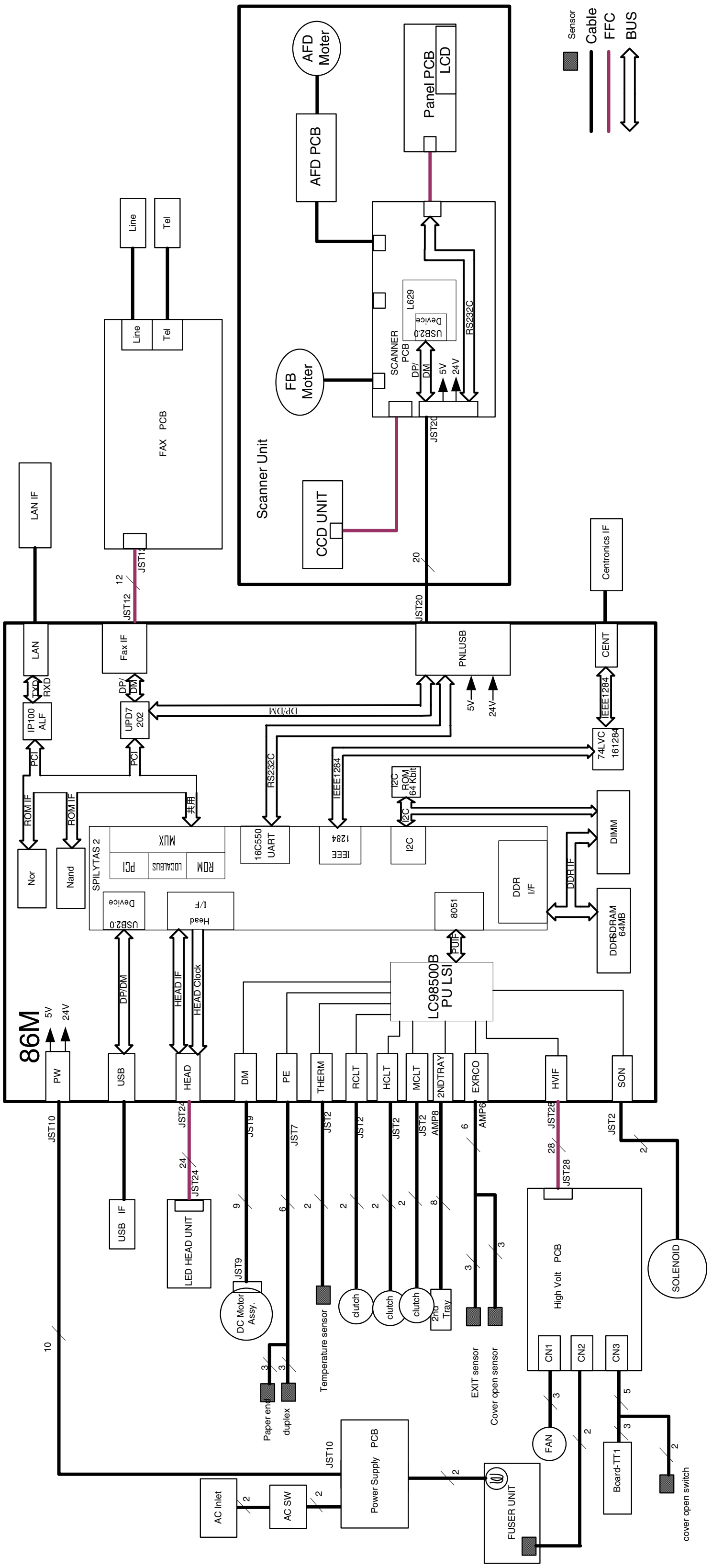

Scanner Unit
AFD Moter
AFD PCB
Panel PCB
LCD
FB Moter
SCANNER PCB
L629
USB2.0 Device
RS232C
DP/DM
5V
24V
JST20
CCD UNIT
Sensor
Cable
FFC
BUS
Line
Tel
FAX PCB
JST12
LAN IF
Centronics IF
86M
LAN
TXD RXD
IP100 ALF
Fax IF
UPD7 202
PCI
ROM IF
Nor
Nand
SPILYTAS 2
MUX
PCI
LOCALBUS
ROM
USB2.0 Device
Head I/F
16C550 UART
IEEE 1284
I2C
ROM 64 Kbit
8051
DDR I/F
DIMM
DDR SDRAM 64MB
PNLUSB
CENT
IEEE1284
74LVC 161284
LC98500B PU LSI
PUIF
PW
USB
HEAD
HEAD IF
HEAD Clock
DM
PE
THERM
RCLT
HCLT
MCLT
2NDTRAY
EXRCO
HVIF
SON
JST10
JST24
JST9
JST7
JST2
AMP8
AMP6
JST28
USB IF
LED HEAD UNIT
DC Motor Assy.
Paper end
duplex
Temperature sensor
clutch
clutch
clutch
2nd Tray
EXIT sensor
Cover open sensor
High Volt PCB
CN1
CN2
CN3
FAN
Board-TT1
SOLENOID
cover open switch
FUSER UNIT
Power Supply PCB
AC SW
AC Inlet

Fig 1.1.2

1.2 Structure of MFP

The insides of MB460/MB470/MB480 printers are composed of the following parts.

- Scanner part
- Electronic photography process part
- Paper path
- Control part (CU part/PU part)
- Power supply parts (high voltage part/low voltage part)

Figure 1-2 shows the composition of the MFP.

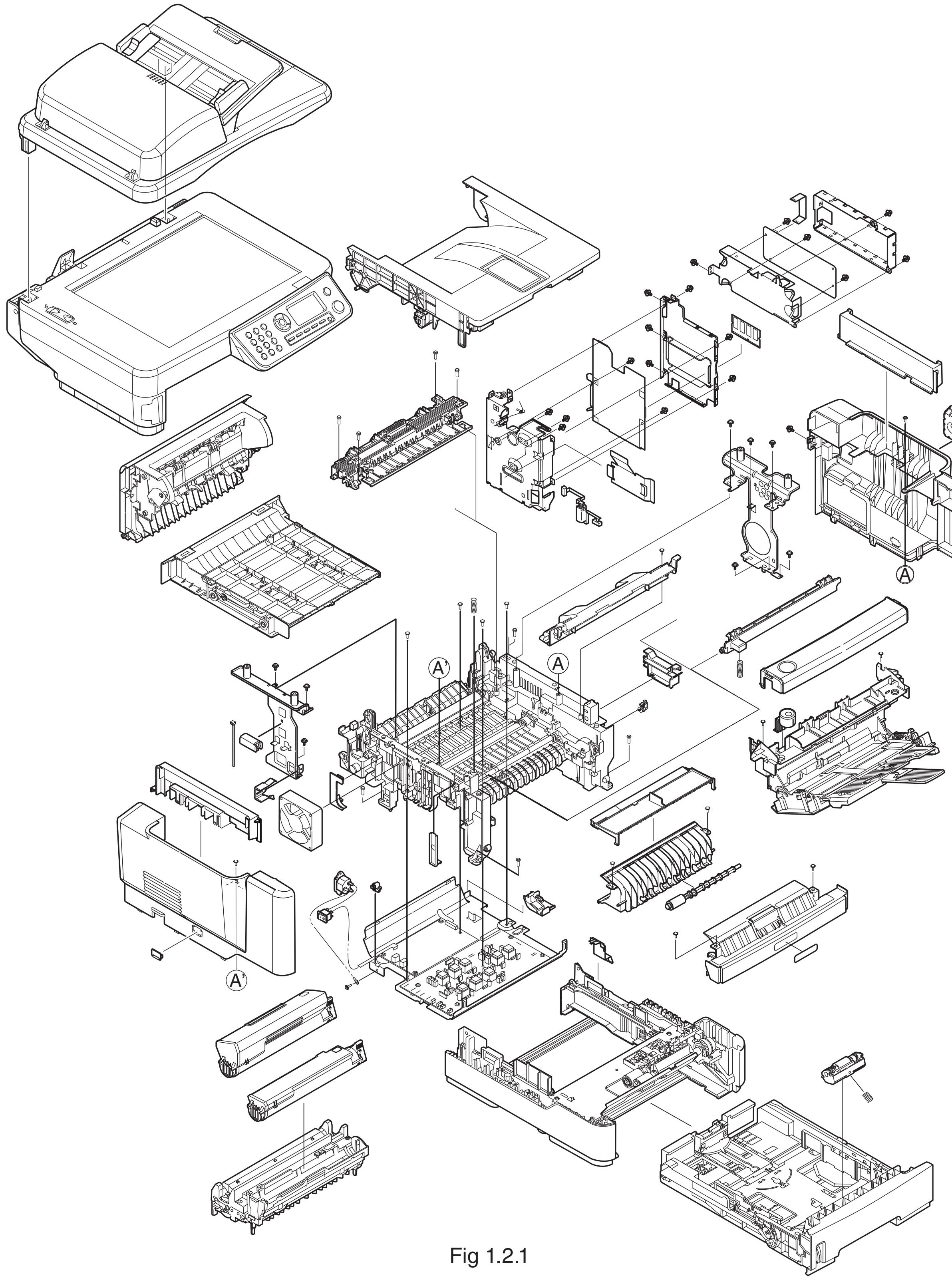


Fig 1.2.1

1.3 Offer of Options

This product can be installed with the following option.

(1) Additional memory board 64MB/256MB

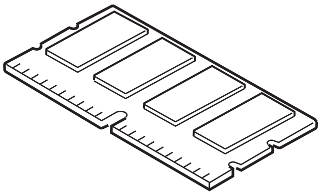


Fig 1.3.1

(2) Option Tray

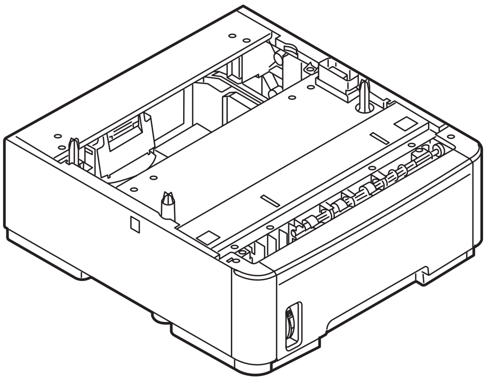


Fig 1.3.2

1.4 Specifications

Table 1.4.1

Category	Item		MB460	MB470	MB480
Exterior Dimensions	Width		447mm		447mm
	Depth		432mm		432mm
	Height		500mm		529mm
Weight			17Kg	18.5Kg	19Kg
printer Engine	Engine speed (A4/Letter)		28/30 PPM		
	Auto Duplex		Standard		
Fast print time (A4)	First Print Out Time		Less than 5.5 seconds		
	Warm-up Time	from Power On	60 seconds		
		from Power Save	25 seconds		
	Low noise mode		Unavailable		
Resolution	LED Head		600dpi	1200dpi	
	Maximum input resolution		F/B:1200 x 600dpi / ADF:1200 x 300dpi		
	Output resolution		600x600dpi 1200x600dpi 2400x600dpi(half speed)	1200x1200dpi 600x600dpi	
	step		4 step 600 x 600dpi		
	Economic mode		toner saving by lowering light		
CPU	Core		PowerPC405		
	I-Cache		16KB		
	D-Cache		16KB		
	Clock		297MHz		
	Bus width		32bit		
RAM	Standard		64MB		
	Option		64MB/256MB available (SO-DIMMx1)		
ROM	Program		NOR-Flash 2MB + NAND-Flash 64MB		
Power Consumption	Max.		800W		
	Normal Operation		500W		
	Stand-by		100W		
	Power Saver Mode		10W or less		
	Energy Star Application		Yes		
Operation Environment (temperature)	In operation		10℃ - 32℃ , 17℃ - 27℃		
	At stand-by		0℃ - 43℃ , power off		
	In storage (1 year max.)		-10℃ - 43℃ , with drum and toner		
	At transport (1 month max.)		-29℃ - 50℃ , with drum and without toner		
	At transport (1 month max.)		-29℃ - 50℃ , with drum and toner		
Operation Environment (humidity)	In operation		20%-80%, 50%-70% Max. wet bulb temperature : 25℃		
	At stand-by		10%-90%, Max. wet bulb temperature : 26.8℃ with power off		
	In storage		10%-90%, Max. wet bulb temperature : 35℃		
	At transport		10%-90%, Max. wet bulb temperature : 40℃		
Duty Cycle	Maximum		50,000 pages per month		70,000 pages per month
Life	Printer		180,000 pages or 5 years		
	Scanner		Flatbed:50,000pages or 5years / ADF:240,000 pages or 5years		
	Duty cycle (M=L/12, A=L/12/5)		35,000 pages per month max. 5,000 pages per month average		
	MTBF (2.3% duty)		6,000 hours		
	MPBF		24,000 pages		
	MTTR		30 minutes		
	Toner life@ISO19752	consumption	3,500 7,000		3,500 7,000 12,000
		Starter	1500		

<table>
<tr><th>Category</th><th colspan="2">Item</th><th>MB460</th><th>MB470</th><th>MB480</th></tr>
<tr><td rowspan="3">Life</td><td rowspan="3">Image drum life
(w/o power save)</td><td>Continuous</td><td colspan="3">25,000 pages (at simplex)</td></tr>
<tr><td>3 pages per job</td><td colspan="3">20,000 pages (at simplex)</td></tr>
<tr><td>1 page per job</td><td colspan="3">12,000 pages (at simplex)</td></tr>
<tr><td rowspan="3">Operation noise</td><td colspan="2">Operating</td><td colspan="3">56dB</td></tr>
<tr><td colspan="2">Standby</td><td colspan="3">32dB</td></tr>
<tr><td colspan="2">Power save mode</td><td colspan="3">Back ground level</td></tr>
<tr><td rowspan="5">Paper handling</td><td rowspan="3">Paper Input Capacity</td><td>1st Tray</td><td colspan="2">Legal/universal cassette
250 sheets</td><td>Legal/universal cassette
530 sheets</td></tr>
<tr><td>2nd Tray (optional)</td><td colspan="3">Legal/universal cassette 530 sheets</td></tr>
<tr><td>MP Tray</td><td>Single sheet manual feed slot</td><td colspan="2">50 sheets Multi Purpose Tray</td></tr>
<tr><td rowspan="2">Paper Output Capacity</td><td>Face up</td><td colspan="3">N/A</td></tr>
<tr><td>Face down</td><td colspan="3">150 sheets</td></tr>
<tr><td rowspan="3">Paper Size</td><td colspan="2">Legal/universal or A4 cassette/ Universal cassette</td><td colspan="3">13,13.5,14Legal,Letter,Executive,A4,A5,B5
statement(first cassette only)
Free</td></tr>
<tr><td colspan="2">MP Tray</td><td colspan="3">13,13.5,14Legal,Letter,Executive,A4,A5,B5,A6,C5,C6,DL ,Com-9,Com-10,Monarch,statement,Free</td></tr>
<tr><td colspan="2">Duplex</td><td colspan="3">Letter,A4,up to Legal14"</td></tr>
<tr><td rowspan="4">Minimum paper size</td><td colspan="2">1st Tray</td><td colspan="3">3.94"x8.3" (210mm)</td></tr>
<tr><td colspan="2">2nd Tray</td><td colspan="3">5.8"x8.3"(210mm,A5)</td></tr>
<tr><td colspan="2">MP Tray</td><td colspan="3">3.4"x5.5"(140mm)</td></tr>
<tr><td colspan="2">Duplex</td><td colspan="3">Auto Duplex Letter,A4;Manual Duplex 3.4"x5.5"</td></tr>
<tr><td rowspan="4">Paper Weight</td><td colspan="2">1st Tray</td><td colspan="3">16~32 lb. (60.16~120.32gsm)</td></tr>
<tr><td colspan="2">2nd Tray</td><td colspan="3">16~32 lb. (60.16~120.32gsm)</td></tr>
<tr><td colspan="2">MP Tray</td><td colspan="3">16~43 lb. (60~160gsm) (Enve. : N/A)</td></tr>
<tr><td colspan="2">Duplex Print</td><td colspan="3">16~28 lb. (60.16~105.28gsm)</td></tr>
<tr><td rowspan="7">Status switch/ Sensor</td><td colspan="2">Paper tray empty</td><td colspan="3">Available</td></tr>
<tr><td colspan="2">Paper low</td><td colspan="3">N/A</td></tr>
<tr><td colspan="2">Toner Empty</td><td colspan="3">Available</td></tr>
<tr><td colspan="2">Cover open</td><td colspan="3">Available</td></tr>
<tr><td colspan="2">Fuser temp</td><td colspan="3">Available</td></tr>
<tr><td colspan="2">Paper size</td><td colspan="3">N/A</td></tr>
<tr><td colspan="2">Stacker full</td><td colspan="3">N/A</td></tr>
<tr><td rowspan="7">Communication Interface</td><td colspan="2">USB Host IF</td><td colspan="3">N/A</td></tr>
<tr><td colspan="2">USB Device IF</td><td colspan="3">USB connector Type B (2.0 Hi-Speed)</td></tr>
<tr><td colspan="2">Ethernet I/F</td><td colspan="3">RJ-45 (10/100 Base TX)</td></tr>
<tr><td colspan="2">Tel/Line I/F</td><td>N/A</td><td colspan="2">RJ-11x2 (PSTN/PBX , Ext-TEL)</td></tr>
<tr><td colspan="2">Parallel I/F</td><td colspan="3">CEN36 (IEEE1284)</td></tr>
<tr><td colspan="2">Wireless LAN</td><td colspan="3">N/A</td></tr>
<tr><td colspan="2">Card Slots</td><td colspan="3">N/A</td></tr>
<tr><td rowspan="2">Emulation</td><td colspan="2">Standard</td><td>PCL6/5e , SIDM</td><td colspan="2">PCL6/5e , SIDM , PS3</td></tr>
<tr><td colspan="2">Option</td><td colspan="3">N/A</td></tr>
<tr><td rowspan="3">Option</td><td colspan="2">RAM</td><td colspan="3">RAM DIMM 1slot (64MB or 256MB)</td></tr>
<tr><td colspan="2">2nd tray</td><td colspan="3">530 sheet tray</td></tr>
<tr><td colspan="2">Emulation</td><td colspan="3">N/A</td></tr>
<tr><td rowspan="3">Others</td><td colspan="2">USB-IF logo</td><td colspan="3">Available</td></tr>
<tr><td colspan="2">Windows logo</td><td colspan="3">Available</td></tr>
<tr><td colspan="2">Operation by UPS</td><td colspan="3">Operation by UPS (outage free power supply) is not guaranteed. (Do not use UPS)</td></tr>
</table>

1.5 Interface Specification

1.5.1 USB Interface Specification

1.5.1.1 Outline of USB Interface

(1) Basic Specification
USB

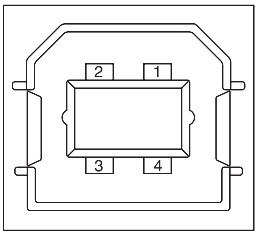
(2) Transmission Mode
Hi speed (480Mbps±0.05% max.)

(3) Power Control
Self power device

1.5.1.2 USB Interface Connector and Cable

(1) Connector

- Printer side: B receptacle
  Upstream port
  Equivalent of UBR24-4K5C00 (made by ACON)



Connector pin arrangement

Fig 1.5.1

- Cable side: B plug (off)

(2) Cable
Cable length: Specification Cable of USB2.0 spec. of less than 5m.(less than 2m is recommended)
(Shielded cable is used here.)

1.5.1.3 UBS Interface Signal

Table 1.5.1

	Name of Single	Function
1	Vbus	Power Supply (+5V)(red)
2	D -	Data transmission (white)
3	D +	Data transmission (green)
4	GND	Single ground (black)
Shell	Shield	

1.5.2 Network Interface Specification

1.5.2.1 Outline of Network Interface

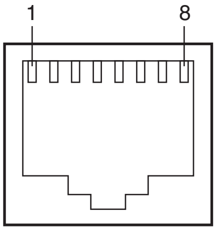
Table 1.5.2 Basic Specification of Network Interface

Protocol Family	Network Protocol	Application
TCP/IP	ARP,IP,ICMP,IPv6,TCP,UDP	LPR,Port9100,FTP,HTTP,HTTPS,IPP, SNMPv1/v3,TELNET,DHCP/BOOTP,DNS, DDNS,WINS,UPnP,Bonjour,SNTP,SMTP, POP3,Windows Rally(WSD Print,LLTD), ODNSP,SSL/TLS,LDAP,Kerberos
NBT/NetBEUI	SMB,NetBIOS,NetBIOS over TCP	
EtherTalk	ELAP,AARP,DDP,AEP,NBP,ZIP,RTMP,ATP,PAP	
IEEE802.1X	EAP-TLS,PEAP	

1.5.2.2 Network Interface Connector and Cable

(1) Connector

100 BASE-TX/10 BASE-T (automatic switch, no simultaneous use)



Connector pin arrangement

Fig 1.5.2

(2) Cable

Unshielded twist pair cable with RJ-45 connector (Category 5 is recommended.)

1.5.2.3 Network Interface Signal

Table 1.5.3

Pin No.	Singles	Single Direction	Functions
1	TXD+	FROM PRINTER	Send Data +
2	TXD-	FROM PRINTER	Send Data -
3	RXD+	TO PRINTER	Received Data +
4	-	-	Unassigned
5	-	-	Unassigned
6	RXD-	TO PRINTER	Received Data -
7	-	-	Unassigned
8	-	-	Unassigned

1.5.3 Telephone Line Interface Specification (Only MB470/MB480)

1.5.3.1 Outline of telephone Line Interface

The machine will reliably communicate with distant stations over voice-level telephone line.

1.5.3.2 Telephone Line Interface Connector and Cable

Printer side : RJ-11
Cable side : TEL Cable (Cable with plug)

Connector contact arrengement

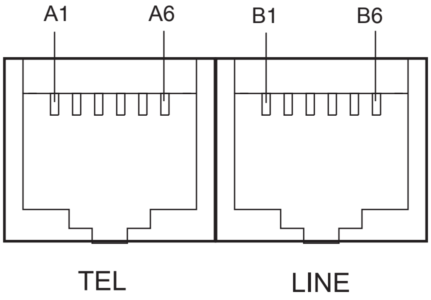


Fig 1.5.3

1.5.3.3 Telephone Line Interface signal

Tabel 1.5.4

	Contact No.	Functions
TEL	A1	Unspecified
	A2	Unspecified
	A3	TCP
	A4	TCP
	A5	Unspecified
	A6	Unspecified
LINE	B1	Unspecified
	B2	Unspecified
	B3	TCP
	B4	TCP
	B5	Unspecified
	B6	Unspecified

TCP : Terminal Connection Point

1.5.4 Parallel Interface Specifications

1.5.4.1 Parallel Interface Overview

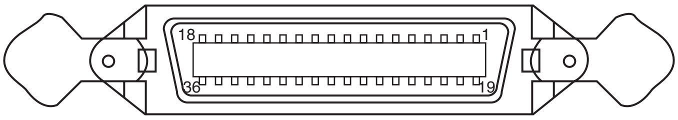
Table 1.5.5

Item	Details
Corresponding mode	Comatible mode, nibble mode, ECP mode
Data bit length	Compatible: 8, Nibble: 4, ECP: 9 bit

1.5.4.2 Parallel Interface Connector and Cable

(1) Connector

Printer:	36pConnector (Female) 57LE-40360-12 (D56) (DDK Ltd.) equivalent product
Cable:	36pConnector (Male) 57FE-30360-20N (D8) (DDK Ltd.) equivalent product



Pin arrangement from interface cable side

Fig 1.5.4

(2) Cable
Use a cable shorter than 1.8m.

(Use a cable with a shielded twisted-pair wire for to prevent noise interference.)

1.5.4.3 Parallel Interface Level

Low Level : 0.0V to +0.8V

High Level : +2.4V to +5.0V

2. OPERATIONAL EXPLANATION

2.1 Electrophotographic process mechanism

(1) Electrophotographic process

The following describes the overview of electrophotographic process.

1. Charging
   Equally charge the surface of image drum by implying negative voltage to the charged roller due to negative charge.
2. Exposure
   The light from LED Head is exposed on the negative-charged surface of image drum. The surface electrical potential of the exposed part of image drum surface becomes lower. Then forms electrostatic latent image.
3. Development
   Negative-charged toner is attracted to the electrostatic latent image due to electrostatic while touching the image drum. Then forms viewable image.
4. Transfer
   Overlap paper on the surface of OPC drum, from the backside of paper transfer toner image to the paper by applying electrical charge by transfer roller.
5. Drum cleaning
   The remaining toner on the image drum that is not transferred is made to be equable by cleaning roller. And is temporarily attracted to the cleaning roller due to electrostatic.
6. Fusing
   The toner image that is transferred to paper is fused on paper by heat and pressure.

1. Charging

Charge the image drum surface by implying voltage to the charged roller that contacts the image drum surface.

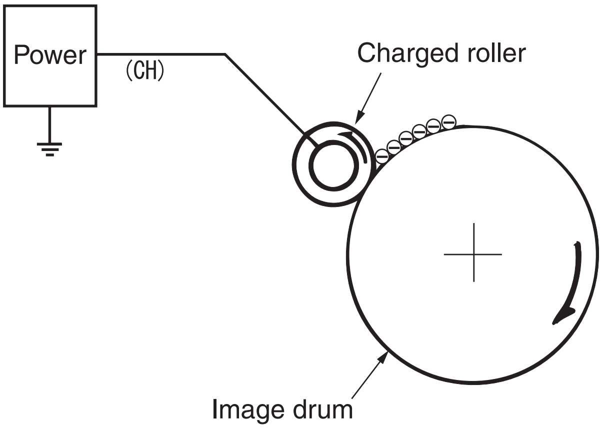

Power
(CH)
Charged roller
Image drum

Fig 2.1.1

2. Exposure

The light emitting from the LED Head will be exposed to the negative charged image drum. When the surface electric potential of exposed part of the image drum goes to decrease, the electrostatic latent image complying with image signal is formed.

Image drum is coated by basic layer (UL), charge generating layer (CGL), charge transferring layer (CTL) on the basic material aluminum. The thickness of the organic light sensor (OPC) that is consisted by CTL and CGL is approximate 20μm.

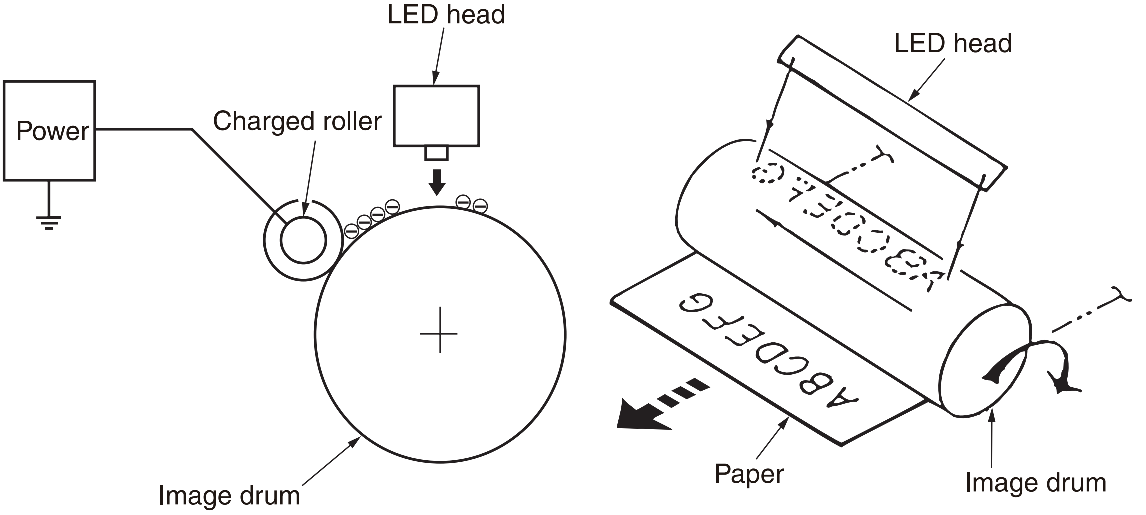

LED head
Power
Charged roller
Image drum
LED head
ABCDEFG
Paper
Image drum

Fig 2.1.2

3. Image development

Toner is attracted to the electrostatic latent image on the image drum surface, then the electrostatic latent image changes to toner image.

1 As the roller on the supply spot of toner rotates while scrubbing the image-developing roller, fiction electricity occurs between the image developing roller and toner; toner is attracted to the image-developing roller.

2. The toner that has been attracted to the image-developing roller is dropped down to the developing plate to make a thin toner film on the image developing roller side.

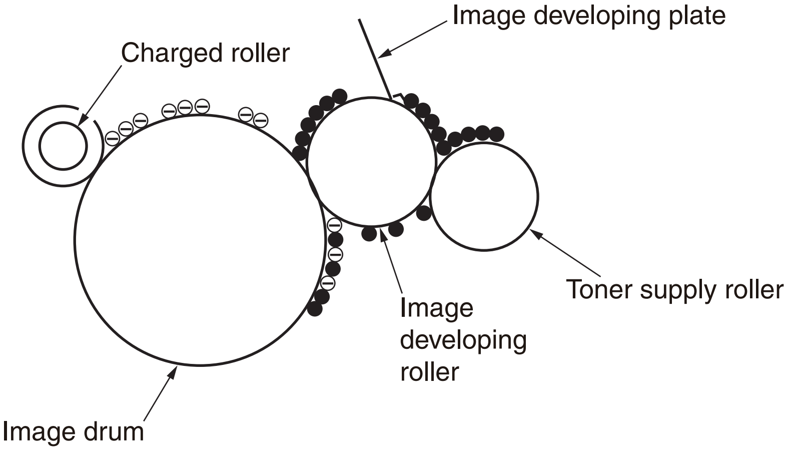


Image developing plate
Charged roller
Toner supply roller
Image developing roller
Image drum

Fig 2.1.3

3 The toner is attracted by the exposed part (Low electrical potential part) of the image drum when the image drum contact the image developing roller, so as to see the electrostatic latent image.

Note! The necessary bypass voltage in image processing is impressed on the toner feeding roller and image developing roller as show below.

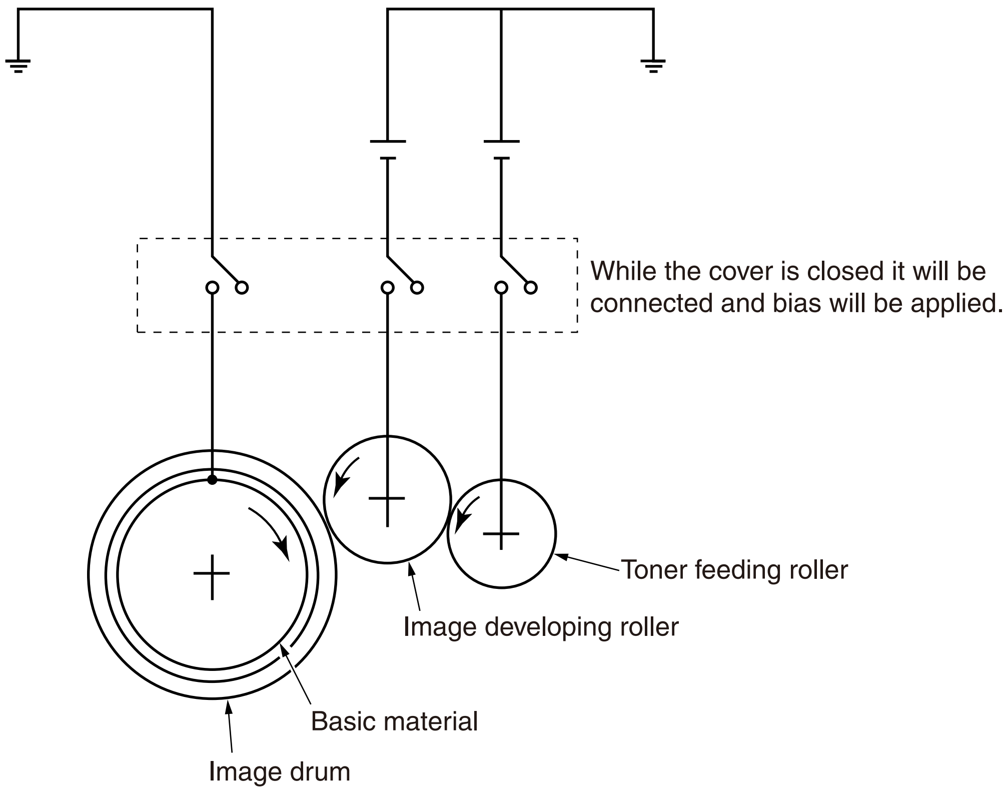

While the cover is closed it will be connected and bias will be applied.
Toner feeding roller
Image developing roller
Basic material
Image drum

Fig 2.1.4

4. Transfer

The transfer roller, which is from conductive sponge material, is created to meet intimate attachment of image drum roller surface and feeding paper. The feeding paper is set up on the surface of image drum. Plus charge, which is the converse polarity with toner polarity, is applied from the backside of the paper.

As high plus voltage is applied to transfer roller from the power supply, the plus charge on the transfer roller surface is induced and transferred to the paper while the paper contact the transfer roller. The negative charged toner, which has been attracted to the image drum surface, is transferred to the surface of feeding paper by the plus charge of the backside of the paper.

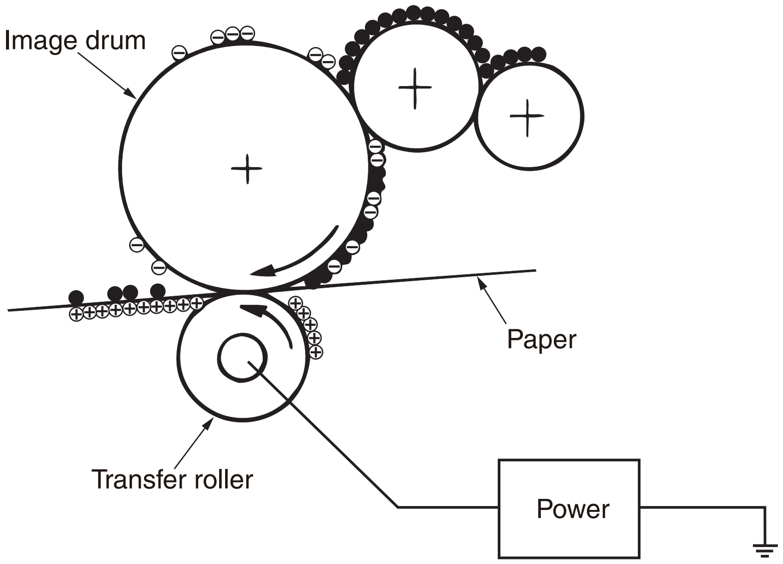


Fig 2.1.5

5. Drum cleaning

1 Cleaning

After the completion of transferring, the remaining toner on the image drum is temporarily attracted by the electrostatic and the image drum surface is cleaned.

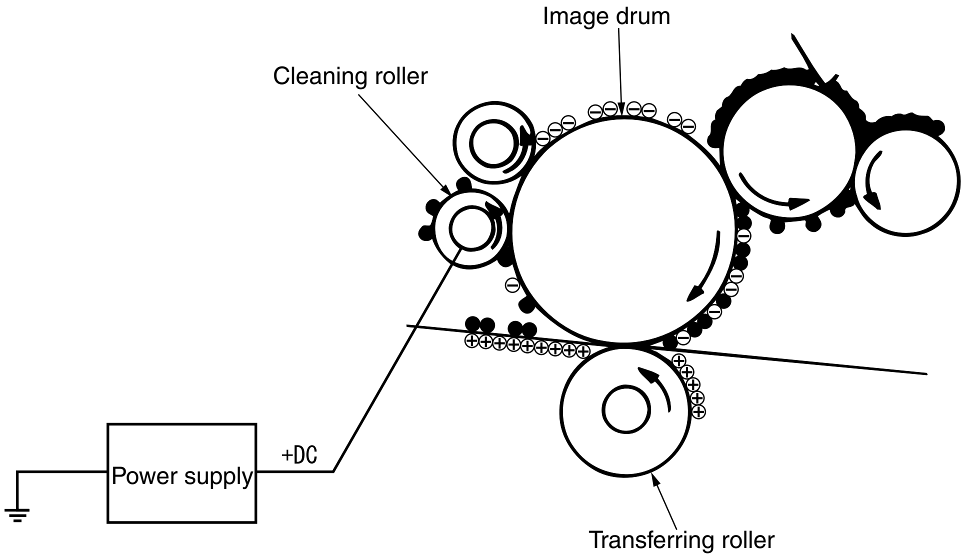


Fig 2.1.6

2 Roller cleaning

In the following case, there is a need of cleaning the charged roller, transfer roller, and cleaning roller.

- Warming up as switching on the power supply
- Warming up after open-close of the cover
- In case of termination of printing operation
- By periodically change the bias voltage that is implied to each roller during continuous printing, transfer the attached toner from roller to image drum and then return it to developing device.

6. Fusing

After the termination of transfer the unsettled toner image is settled to paper by heat and pressure while passing between Heat roller and Back up roller. Heat roller is Teflon coated and is mounted by heater that can generate heat (Halogen lamp).

The thermistor that contacts the Heat roller adjusts the Heat roller temperature to the temperature specified by the menu complying with the paper width. For safety the thermostat shuts off the voltage supply to the Heater by opening the thermostat in the case of abnormally temperature increasing.

The back up roller is held by the pressure springs on each terminal due to the pressure applied.

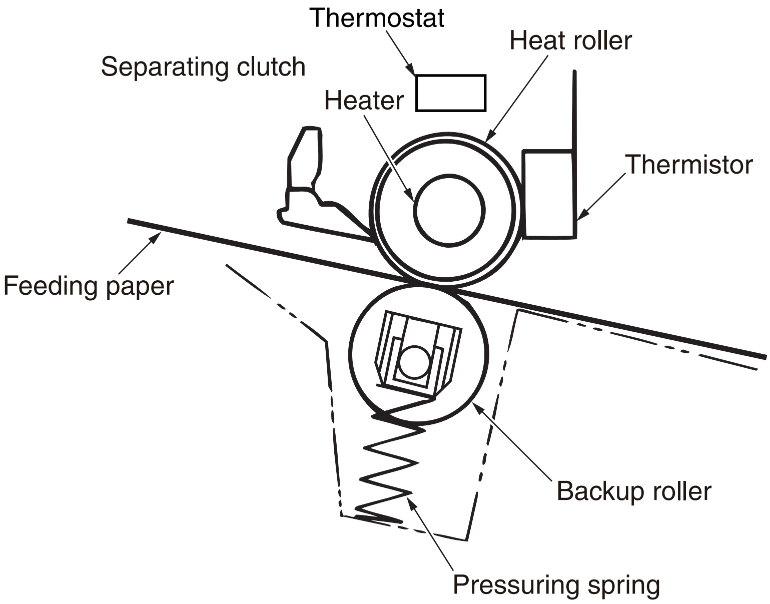

Thermostat
Heat roller
Separating clutch
Heater
Thermistor
Feeding paper
Backup roller
Pressuring spring

Fig 2.1.7

2.2 Printing process

The paper fed from Tray 1 and Tray 2 is conveyed by feeding roller, conveying roller, and resist roller. When feeding paper is from MPT, it is conveyed by MPT, feeding roller, and resist roller. After that the feeding paper that is conveyed by image drum and the nip part of transfer roller forms toner image on the paper through electrophotographic process. And then, the toner on the paper is fused by the heat and pressure as the fuser unit passing through. The paper that fused the toner image is ejected from the face down stacker of the ejecting roller. In the case of face up ejecting, it needs to open the backside cover and install face up stacker. (It is unavailable for duplex printing while it is face up ejecting.)

The above is about the operations at simplex printing, yet the below explains the operations at duplex printing. While duplex printing, the paper, which firstly passed through the fuser unit after the backside printing, is conveyed to the inward of Duplex Unit, by the reverse operation of the second ejecting roller that is a certain time after removing the first ejecting roller of the paper rear side. Paper, is conveyed by conveying roller of Duplex Unit, and then merges to the same route with the feeding paper that is from the tray. Onwards, it is the same with the simplex printing operation by the feeding paper from tray.

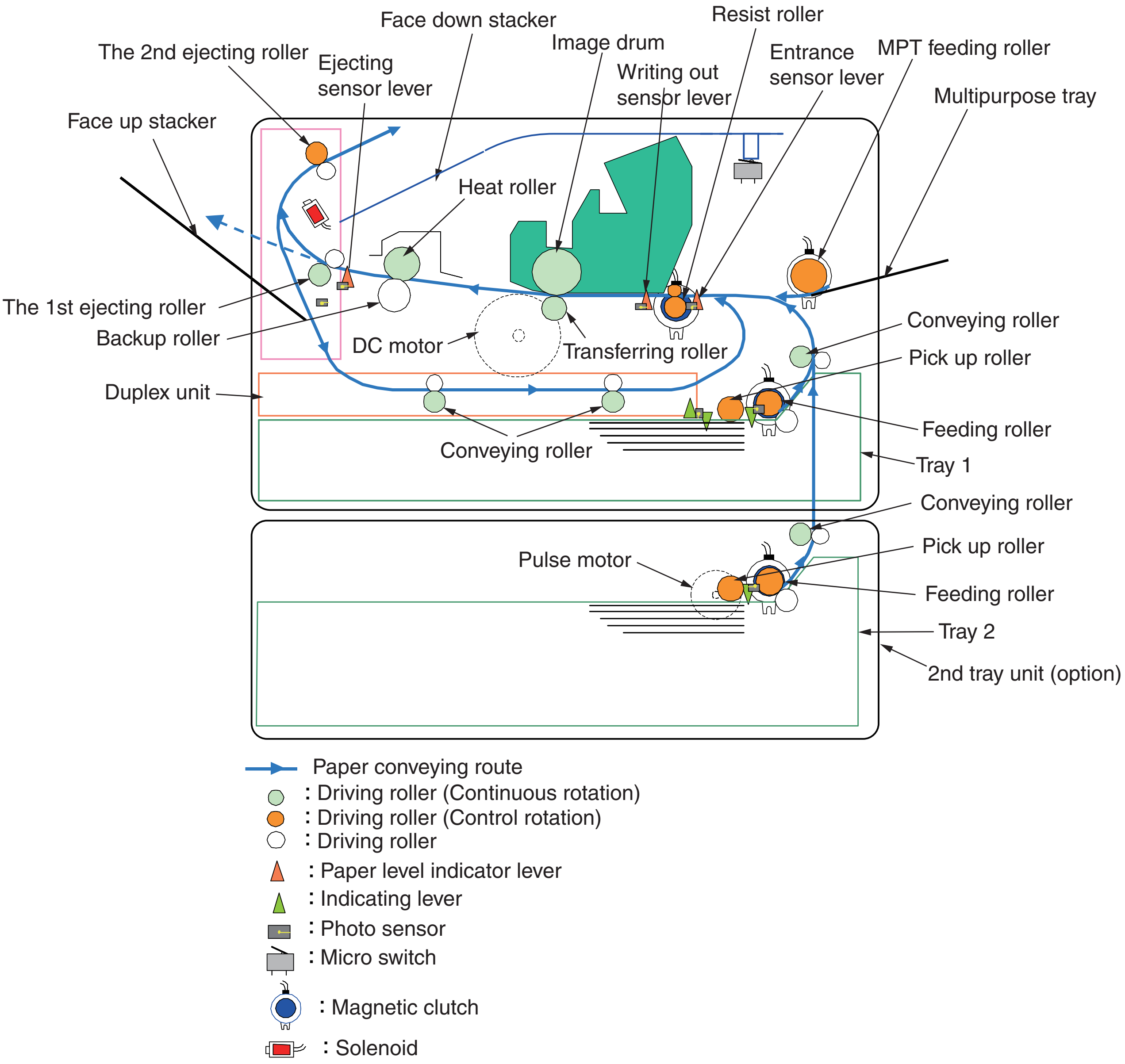

Face down stacker
Resist roller
Image drum
The 2nd ejecting roller
Ejecting sensor lever
Writing out sensor lever
Entrance sensor lever
MPT feeding roller
Multipurpose tray
Face up stacker
Heat roller
The 1st ejecting roller
Backup roller
DC motor
Transferring roller
Conveying roller
Pick up roller
Duplex unit
Feeding roller
Tray 1
Conveying roller
Conveying roller
Pick up roller
Pulse motor
Feeding roller
Tray 2
2nd tray unit (option)
Paper conveying route
: Driving roller (Continuous rotation)
: Driving roller (Control rotation)
: Driving roller
: Paper level indicator lever
: Indicating lever
: Photo sensor
: Micro switch
: Magnetic clutch
: Solenoid

Fig 2.2.1

(1) Paper feeding from Tray 1

1. As DC motor rotating (Counterclockwise rotation), if set the paper feeding clutch as ON, as the paper feeding roller and pick up roller rotating, the paper that is inside the tray is conveyed.
2. The paper is conveyed by the conveying roller. After the entrance sensor level set to be ON, it bumps into the stopping resist roller, a certain more amount of paper is conveyed. (This corrects the paper skew.)
3. If set the resist clutch as ON, the paper is conveyed by resist roller.

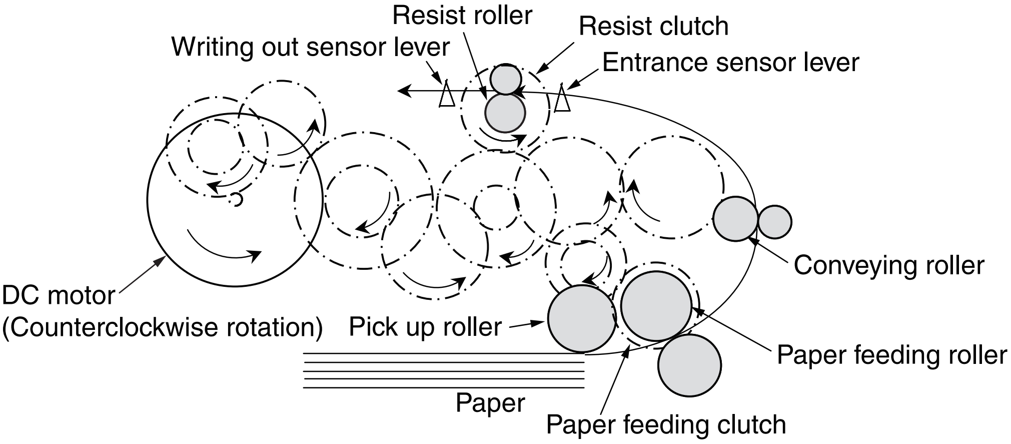

Resist roller
Resist clutch
Writing out sensor lever
Entrance sensor lever
Conveying roller
DC motor
(Counterclockwise rotation)
Pick up roller
Paper feeding roller
Paper
Paper feeding clutch

Fig 2.2.2

(2) Paper feeding from Multipurpose tray (MPT)(MB470,MB480)

1. As DC motor rotating (Counterclockwise rotation), if set paper feeding clutch as ON the MPT paper feeding roller starts to rotate, the paper in the tray is conveyed.
2. After setting the entrance sensor lever as ON, the paper bumps into the stopping resist roller, a certain more amount of paper is conveyed. (This corrects the skew of paper.)
3. If set the resist clutch as ON, the paper is conveyed by resist roller.

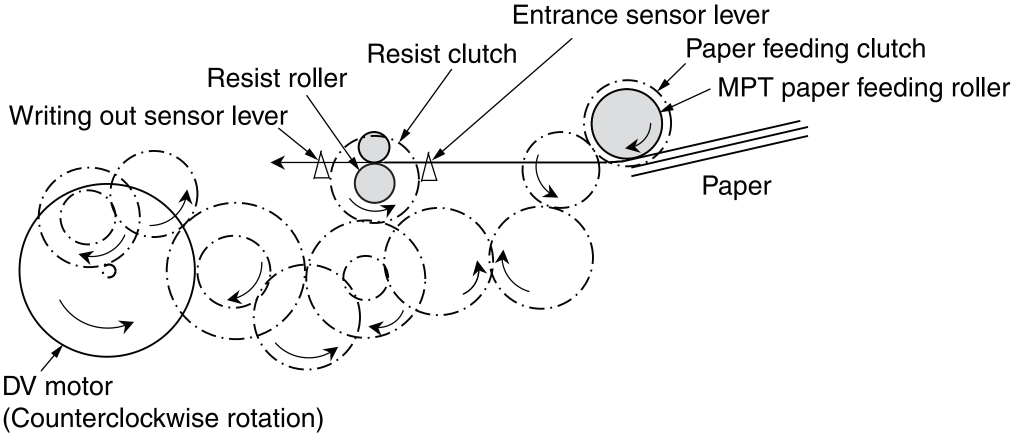

Entrance sensor lever
Resist clutch
Paper feeding clutch
Resist roller
MPT paper feeding roller
Writing out sensor lever
Paper
DV motor
(Counterclockwise rotation)

Fig 2.2.3

(3) Fuser unit and paper ejecting

1. The fuser unit and eject roller is
2. Simultaneously the eject roller rotates, and then the paper is ejected.

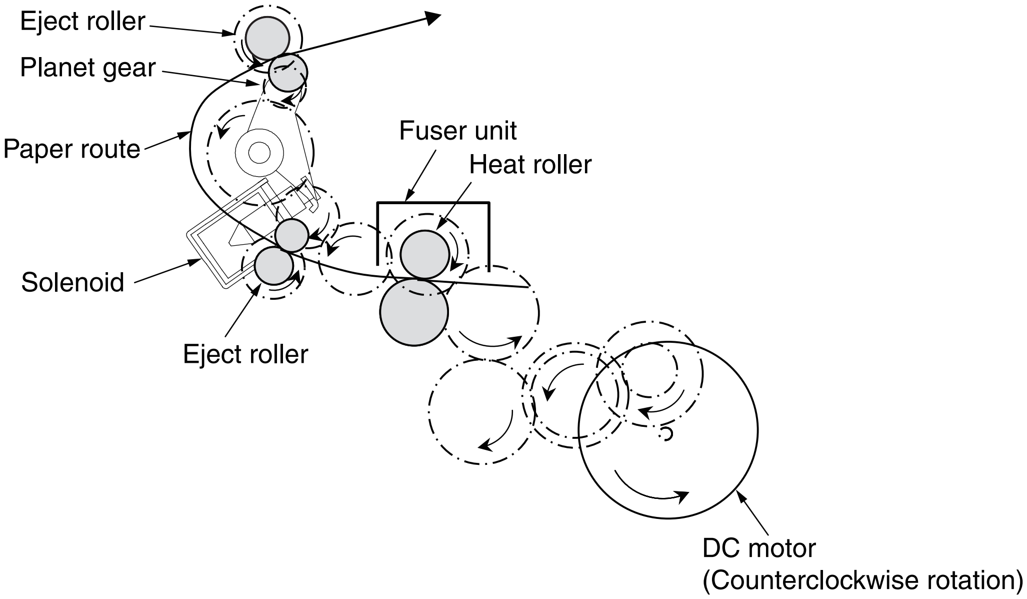

Eject roller
Planet gear
Paper route
Fuser unit
Heat roller
Solenoid
Eject roller
DC motor
(Counterclockwise rotation)

Fig 2.2.4

(4) Paper reversing and paper multi-feeding

1. TRemoving the first eject roller at the rear part of paper and set the solenoid as ON for a while, then the planet gear starts to move, the second eject roller starts inverse rotating (Counterclockwise rotation).
2. By the inverse rotation of the second eject roller the paper is inversely rotated and conveyed to Duplex.
3. Paper is conveyed by Duplex conveying roller.
4. After setting the entrance sensor lever as ON, paper bumps into the stopped resist roller, still a certain more amount of paper is conveyed. (This corrects the skew of paper.).
5. If set the Resist clutch as ON, paper is conveyed by Resist roller.

[Normal rotation]

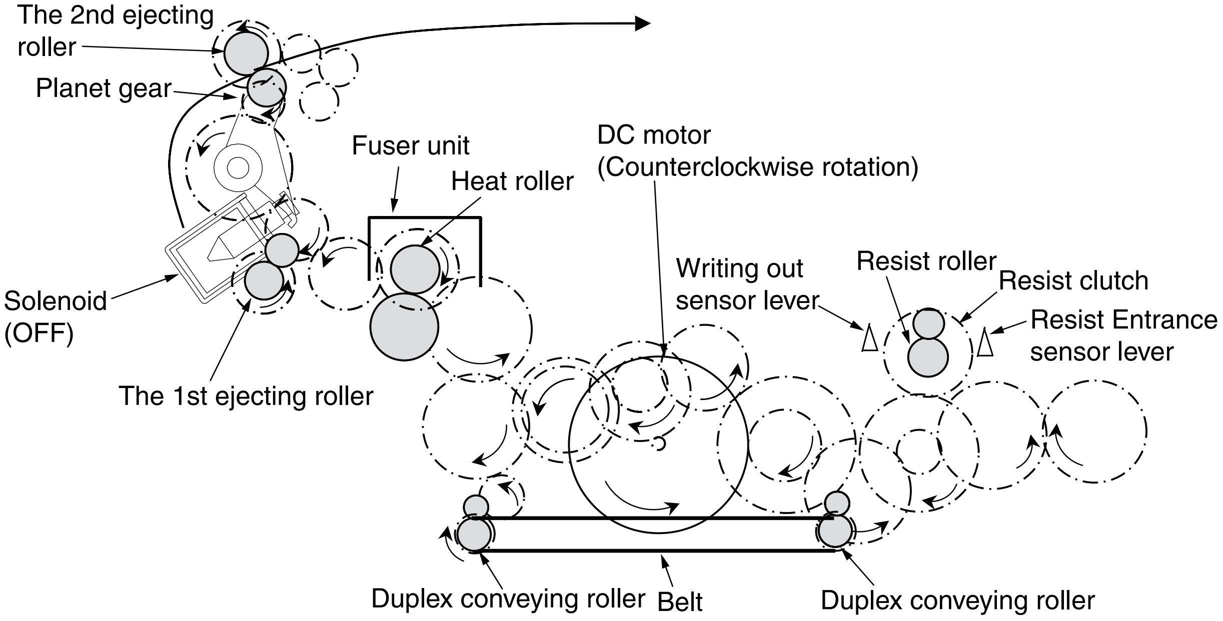

The 2nd ejecting roller
Planet gear
Fuser unit
Heat roller
DC motor (Counterclockwise rotation)
Writing out sensor lever
Resist roller
Resist clutch
Resist Entrance sensor lever
Solenoid (OFF)
The 1st ejecting roller
Duplex conveying roller
Belt
Duplex conveying roller

Fig 2.2.5

[Inverse rotation]

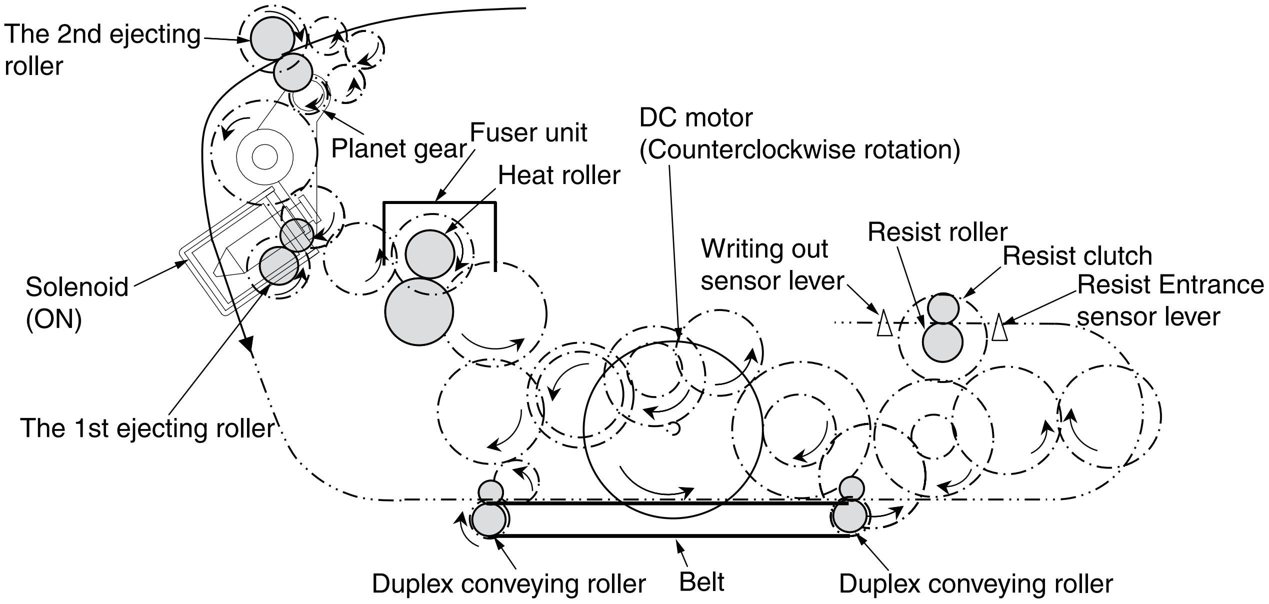

The 2nd ejecting roller
Planet gear
Fuser unit
Heat roller
DC motor (Counterclockwise rotation)
Writing out sensor lever
Resist roller
Resist clutch
Resist Entrance sensor lever
Solenoid (ON)
The 1st ejecting roller
Duplex conveying roller
Belt
Duplex conveying roller

Fig 2.2.6

2.3 Toner entrance detection

- Equipment

Toner entrance detecting equipment consists the agitating gear that agitating the agitating bar at a certain speed and magnet that is on the agitating bar.

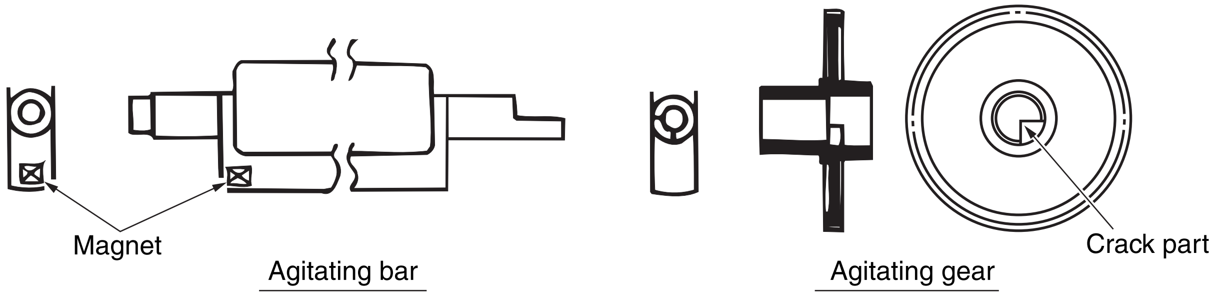


Fig 2.3.1

- Operation

Detecting the toner low by monitoring the congruous time intervals between the magnet that is set on the sensor plate and the magnet attached on the agitating bar,

Operation in toner full status

- The crack part of agitating gear meshing with the projection portion of agitating bar, the agitating bar rotates in accordance with the rotating of gear.
- Even after the magnet part of the agitating Bar reaches the highest position, it still rotates at the same speed by the pressure of the agitating gear due to the toner resistance.

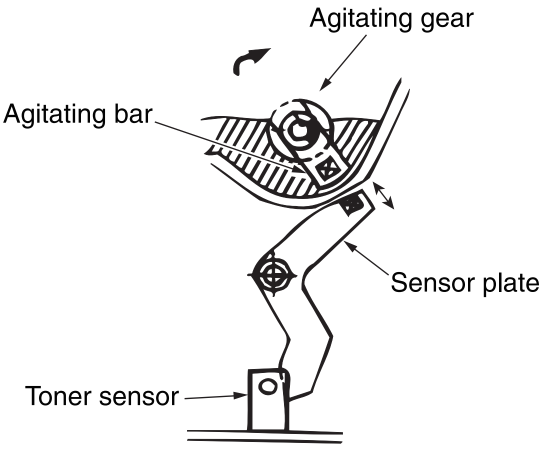


Fig 2.3.2

Operation in toner low status

- When the magnet part of the agitating bar reaches the highest position, because there is no resistance from toner, the agitating bar drops earlier than the gear by the gravity itself, and stops by that status.
  For this reason, the time that the magnet of agitating Bar magnetic attracts the magnet of sensor plate becomes longer. The toner low status can be inspected by monitoring this time.

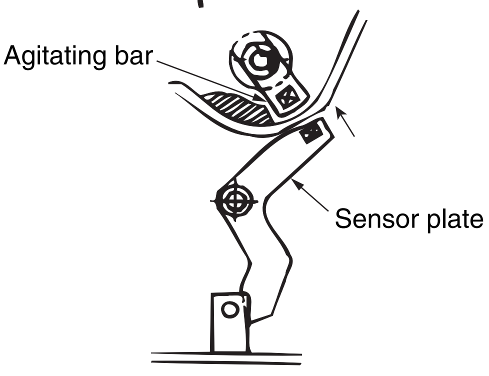


Fig 2.3.3

Toner full status

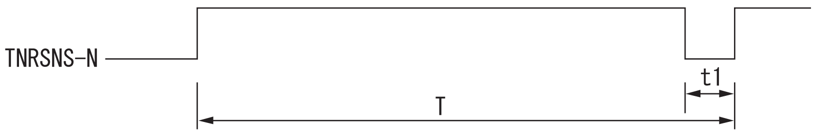


Fig 2.3.4

Toner low status t1 < t2 t1,t2: Magnet attracting time

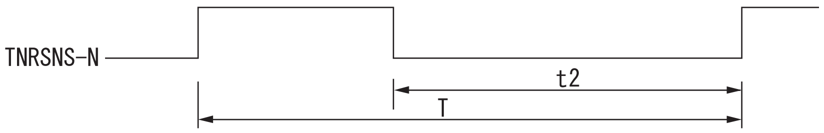


Fig 2.3.5

- Toner sensor alarm actuates if there is not any change on toner sensor.
- Toner sensor is not monitored while main (drum) motor is stopping.

3. MFP INSTALLATION

3.1 Precautions and Prohibition

Table 3.1.1

⚠Warning

- Do not install the MFP in the vicinity of high temperature or fire.
- Do not install the MFP at the place where a chemical reaction may take place (laboratory, etc.).
- Do not install the MFP near flammable solution like alcohol, thinner, etc.
- Do not install the MFP at the place where a small child can reach.
- Do not install the MFP at an unstable place (unsteady frame, tilted place, etc.).
- Do not install the MFP at a highly humid or dusty place or under the direct sunshine.
- Do not install the MFP under the environment of sea breeze or caustic gas.
- Do not install the MFP at a highly vibrating place.
- When you drop the MFP or damage the cover, remove the power plug from the outlet and contact the Customers' Service Center.
  Electric shock, fire or injury may occur.
- Do not connect the power cord, printer cable and earth wire as otherwise directed by the Manual. A fire may break out.
- Do not insert a thing in the vent hole.
  Electric shock, fire or injury may occur.
- Do not place a cup with water on the MFP.
  Electric shock or fire may occur.
- Do not touch the fuser unit when you open the printer cover.
  Burn may occur.
- Do not throw the toner cartridge or image drum cartridge into fire.
  Burn may occur by the dust explosion.
- Do not use a highly flammable spray near the MFP.
  Fire may break out as there are high temperature parts inside the printer.
- When the cover becomes abnormally hot, a smoke arises or a strange odor comes out, remove the power plug from the outlet and contact the Customers' Service Center.
  Fire may break out.
- When liquid like water drops inside the MFP, remove the power plug from the outlet and contact the Customers' Service Center.
  Fire may break out.
- When a thing like a clip drops inside the MFP, remove the power plug from the outlet and take out that thing.
- Do not operate or disassemble the MFP as otherwise directed in the Manual.
  Electric shock, fire or injury may occur.

Table 3.1.2

⚠Caution

- Do not install the MFP at the place where the vent hole is blocked.
- Do not install the MFP on the shaggy carpet.
- Do not install the MFP at the place with little draught or without ventilation like a room with no window.
- Install the MFP away from the monitor TV.
- When the MFP is to be moved, hold both ends of the printer.
- This MFP weighs about 19kg (MB480).
- When to switch the power on or while printing, do not come near the paper exit of the MFP. Injury may occur.

As regards the items of caution, explain to the customer showing the items of caution of the User's Manual. Particularly, explain fully about the power supply cord and earth cable.

3.2 MFP Unpacking Procedure

⚠**Warning**	Personal injuries may occur.	⚠

This MFP weighs about 19kg (MB480).

- Open the upper lid.
- Take out the accessory box.
- Remove the upper buffer material.
- Take out the equipment

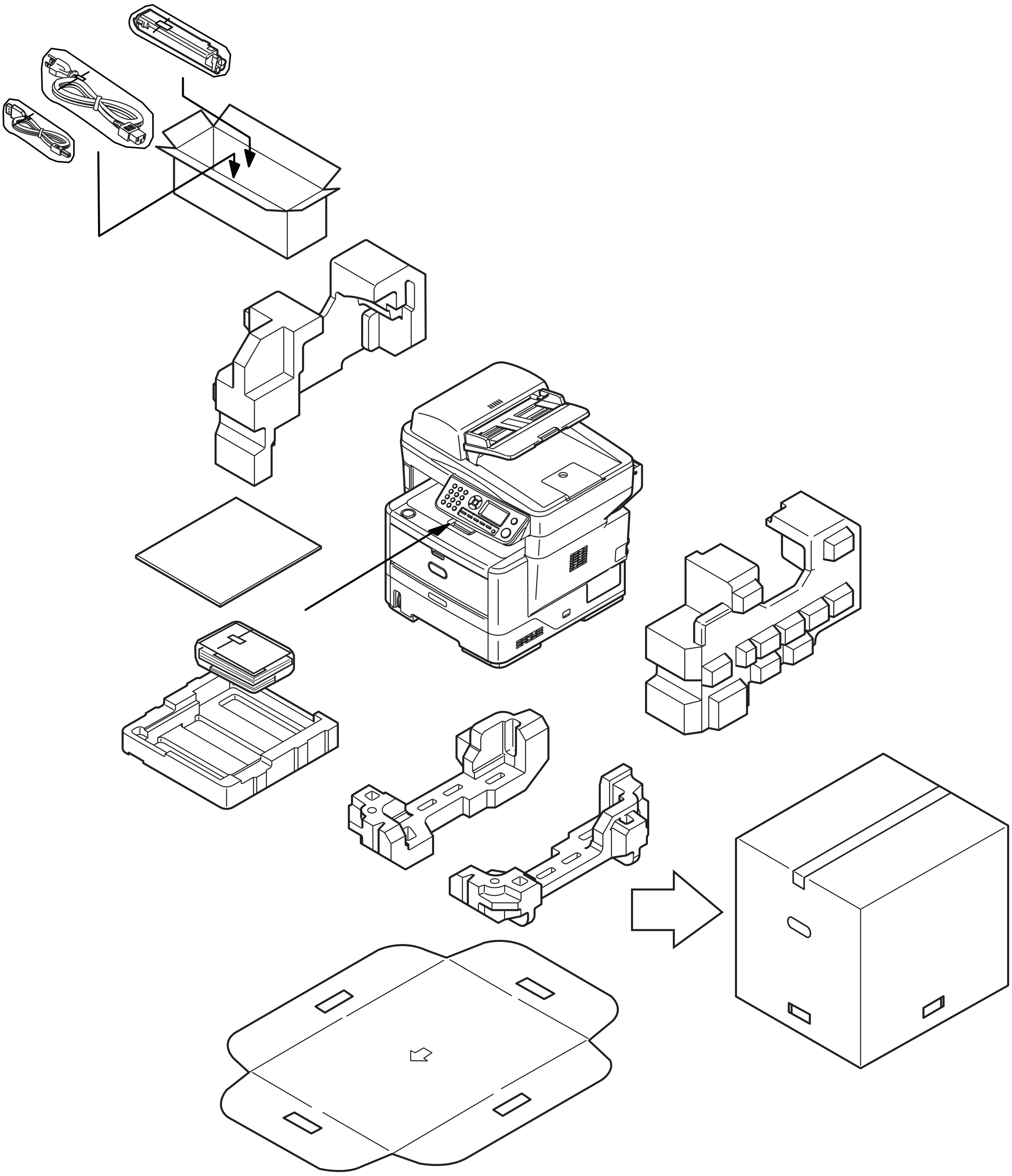


Fig 3.2.1

3.3 MFP Installation Instructions

- Install the MFP at a place under the following temperature and humidity:

Ambient Temperature	: 10 to 32°C
Ambient Humidity	: 20 to 80% relative humidity
Maximum Wet-Bulb Temperature	: 25°C

- Be careful not to be bedewed.
- When the MFP is to be installed at a place where the humidity is less than 30%, use a humidifier or a static electricity prevention mat.

Installation Space

- Place the MFP on a flat desk with enough space for the legs of the MFP.
- Secure enough space around the MFP.

Top View

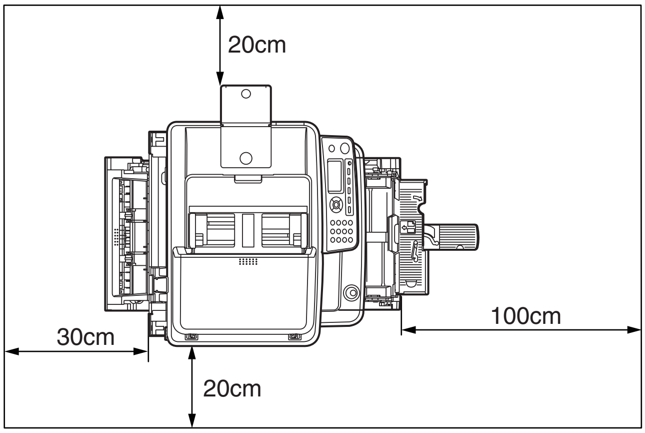


Fig 3.3.1

Side View

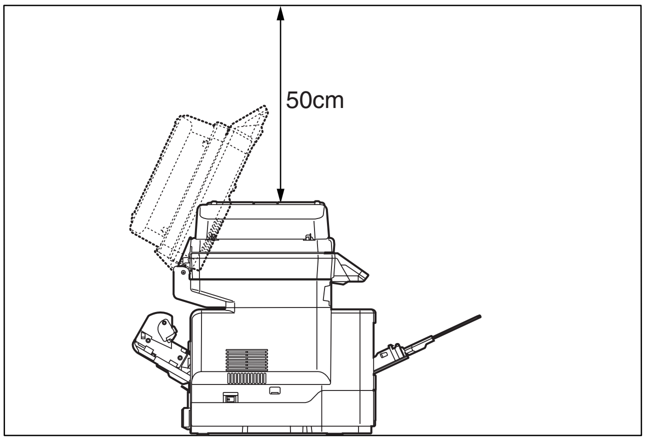


Fig 3.3.2

3.4 Packed Units and Attachments

- Confirm whether there are scratches, stains, etc. on the exterior of the machine.
- Confirm whether there are lacking items, damages, etc. among the accessories.
- If anything unusual is found, contact the user's section in charge and follow its instruction.

⚠Warning	Personal injuries may occur.	⚠

This MFP weighs about 19kg (MB480).

☐ MFP (main body)

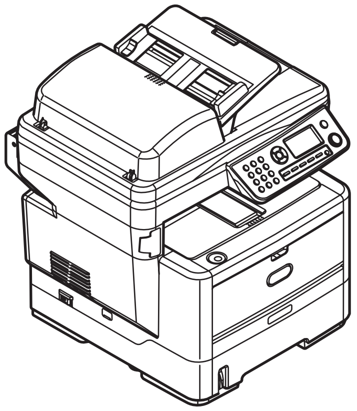


Fig 3.4.1

☐ Starter Toner Cartridges

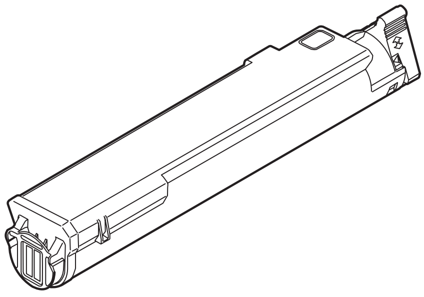


Fig 3.4.2

Explain to customers that the toner cartridge and the image drum cartridge are separable.

☐ MFP Software CD-ROM
☐ Power Cord
☐ Warranty and Registration Card
☐ Users Manuals

Note! The printer cable is not included in the accessories.

3.5 Assembly Procedure

3.5.1MFP Main Body

Remove Protective Equipment

(1) Lift the scanner.
(2) Remove the Pad-Middle.
(3) Remove the Film with two Silica-Gel packs.

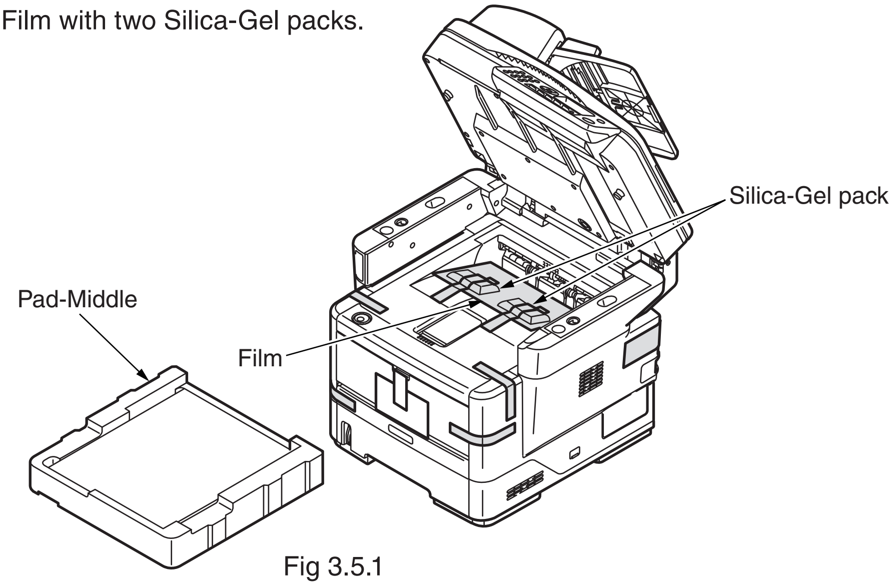

Silica-Gel pack
Pad-Middle
Film

Fig 3.5.1

(4) Remove the eight adhesive tapes on the outside of MFP.

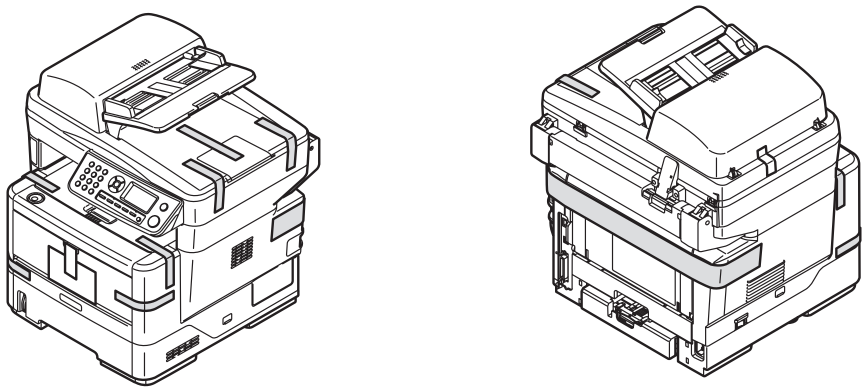


Fig 3.5.2

(5) Open the document cover.
Then remove the four adhesive tapes and two protection pads.

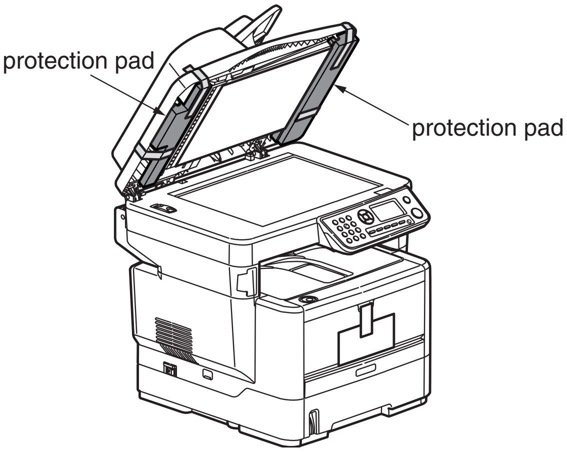

protection pad
protection pad

Fig 3.5.3

(6) Pull out the paper cassete.
(7) Remove the Retainer and the A6 size paper. (In case of MB480)

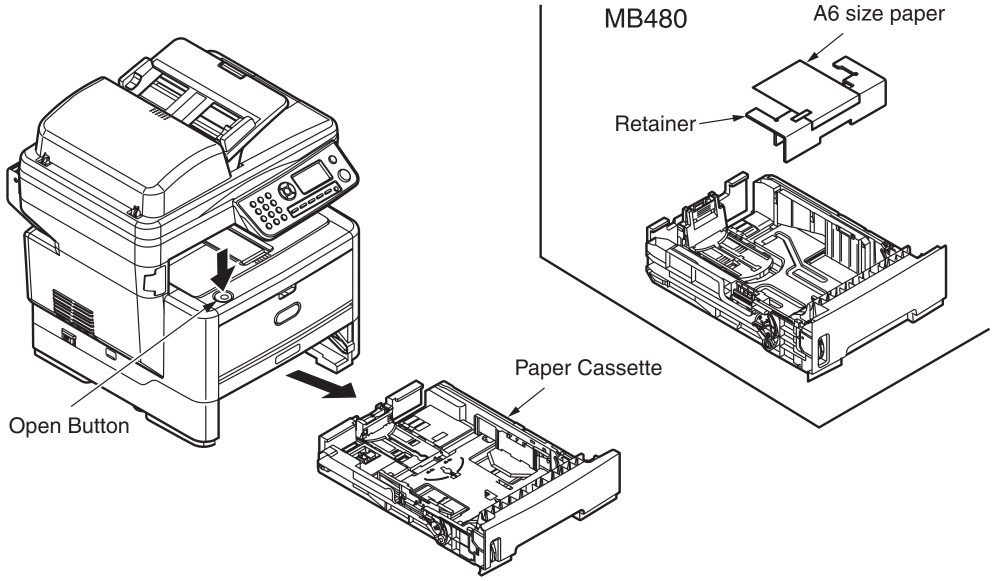

MB480
A6 size paper
Retainer
Paper Cassette
Open Button

Fig 3.5.4

(8) Open Multi-purpose Tray. Remove the A6 size paper. (In case of MB470/MB480)

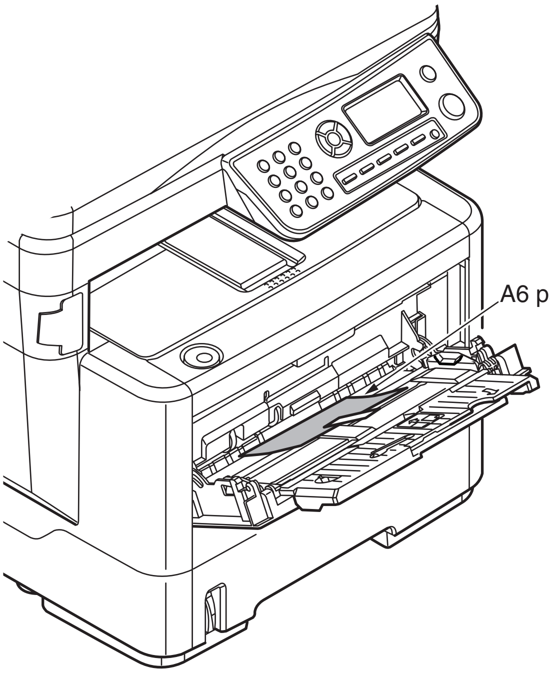


Fig 3.5.5

Install Image Drum Cartridges

(1) Pull out the image drum cartridge gently.

Note! • Handle the image drum very carefully as it is quite easily injured.
• Do not expose the image drum cartridge to direct sunshine or bright light (approximately 1,500 lux or more) . Do not leave it more than 5 minutes under the room light.

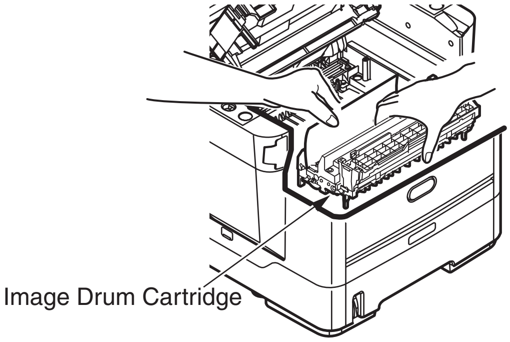


Fig 3.5.6

(2) Place the image drum cartridge on a flat desk, remove the tape which fastens the protection sheet and pull it out in the direction of the arrow.

Note! Do not work on the image drum off the desk top.

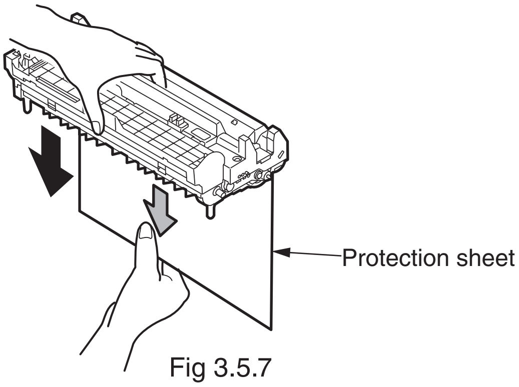


Fig 3.5.7

(3) Holding the image drum by its top center , lower it into place in the printer locating the pegs (A & B) at each end into their slots in the sides of the printer cavity (C) .

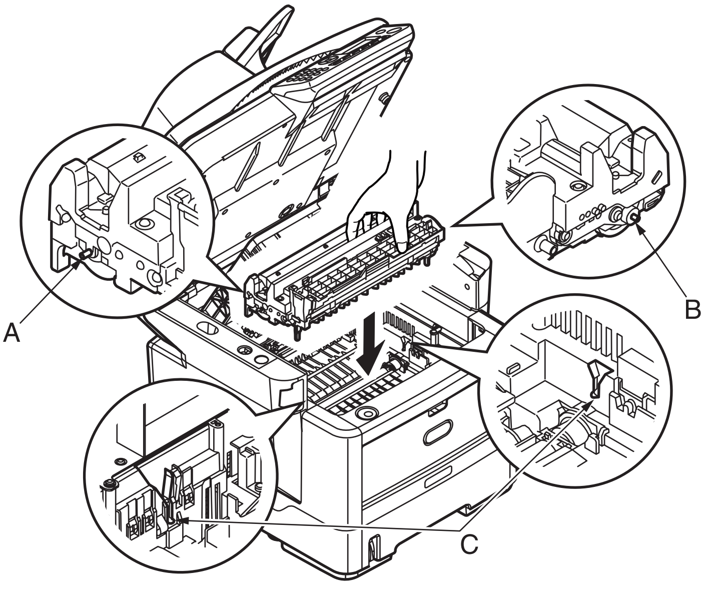


Fig 3.5.8

(4) Release the lock by pushing the knob of the toner cover in the direction of the arrow and remove the toner cover.

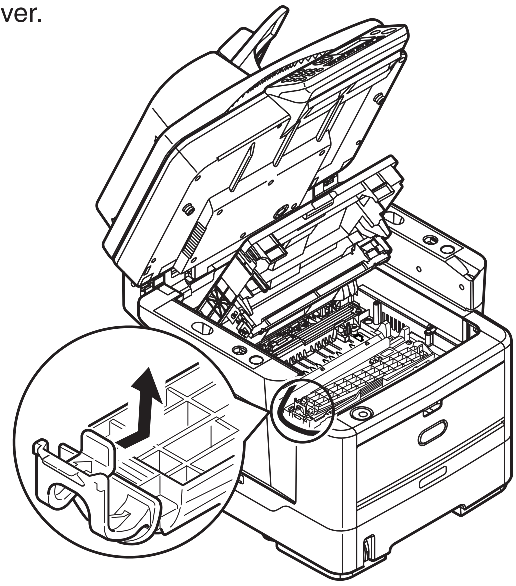


Fig 3.5.9

(5) Gently shake the cartridge from end to end several times to loosen and distribute the toner evenly inside the cartridge.

(6) Remove the wrapping material and peel off the adhesive tape from the underside of the cartridge.

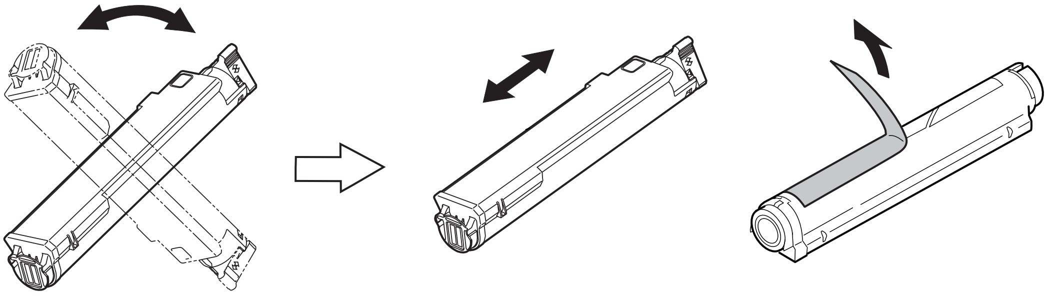


Fig 3.5.10

(7) Holding the cartridge by its top center with the coloured lever to the right , lower it into the printer over the image drum unit from which the toner cover was removed.
Insert the left end of the cartridge into the top of the image drum unit first , push it against the pins on the drum unit then lower the right end of the cartridge down onto the image drum unit.

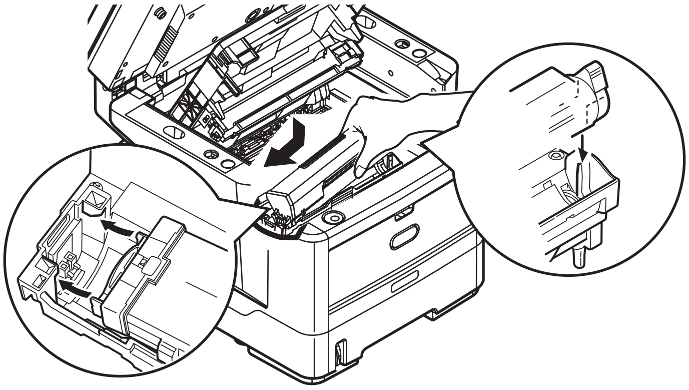


Fig 3.5.11

(8) Pressing gentry down on the cartridge to ensure that it is firmly seated , push the coloured lever towards the rear of the printer.
This will lock the cartridge into place and release toner into the image drum unit.

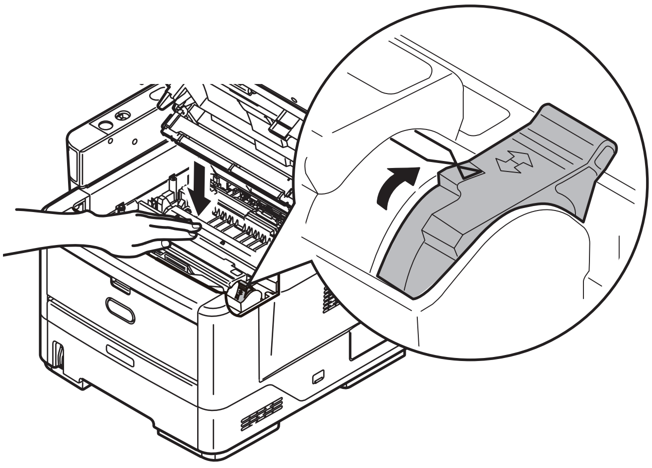


Fig 3.5.12

Note!
- The starter toner (the toner cartridge attached to the product at the time of(purchase) can print approximately 1,000 sheets of A4 paper in case of 5% coverage. (1,500 sheets of A4 paper in case of ISO-pattern.)
- Confirm whether the lever of the toner cartridge is turned fully in the direction of the arrow when Toner Empty Messages are displayed in the LCD.

Unlocking Scanning head

The scan unit is locked during transport to protect the scanning mechanism from being damaged. Be sure to unlock the scan unit before using the machine.

(1) Open the ADF Doc Lid.

(2) Move the lock switch to the “Unlocked position”.
(The lock switch is located on the left corner on the flat bed.)

(3) Close the ADF Doc Lid.

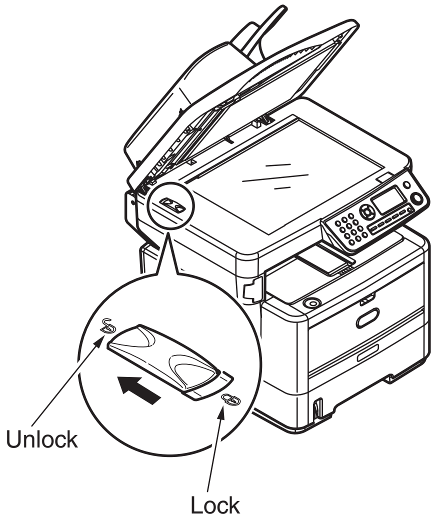


Fig 3.5.13

Note: If you need to move your MFP or Scanner unit for repair or any other reason, be sure to lock your Scanner before moving. To lock your Scanner, please do the following,

1. Turn off your MFP.
2. If the scanning head is not located at the left end, turn the MFP on to return the scanning head to the left end. After the scanning head is returned to the left end, turn the power supply off.
3. Move the lock switch to the “Locked Position”.

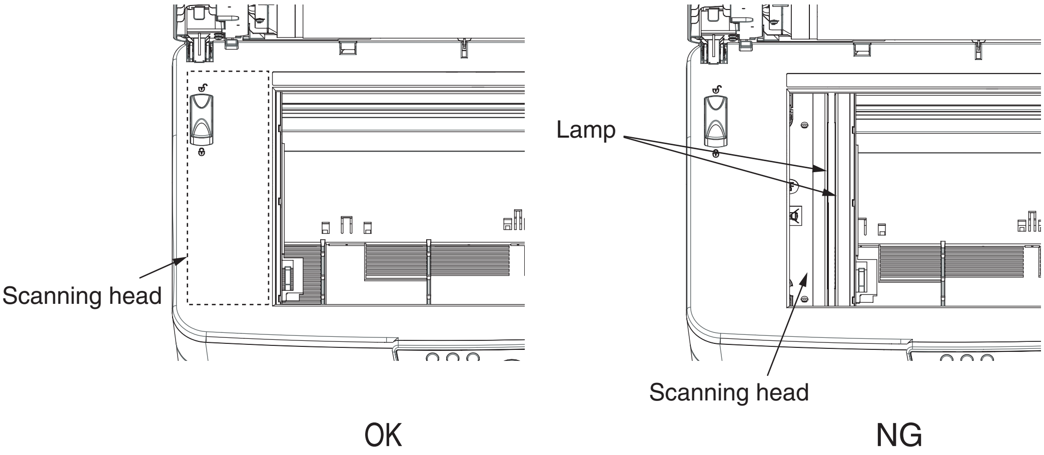


Fig 3.5.14

Load Paper in Paper Cassette

(1) Pull out the paper cassette.

Note! Do not remove the cork on the plate.

(2) Conform the paper guide to the paper size and fix it firmly.

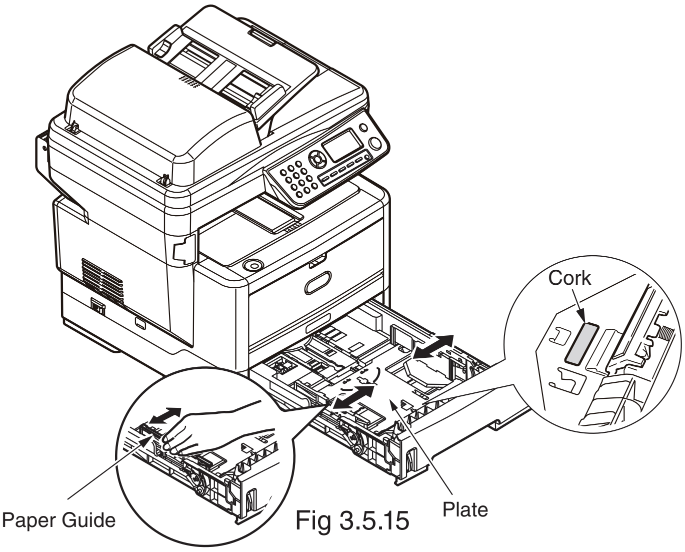

Cork
Paper Guide
Plate

Fig 3.5.15

(3) Shuffle the sheets of paper and arrange up, down, left and right properly.

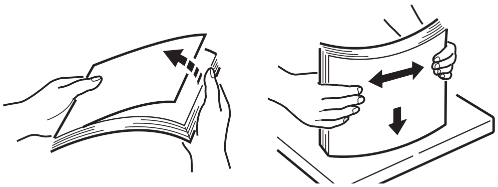


Fig 3.5.16

(4) Make the printable side down and set the paper.

Note! • Place the paper in front of the paper cartridge.
• Set the paper not to exceed "▽"mark of the paper guide. (250 sheets weighing 70kg)

(5) Fix the paper by the paper stopper.

(6) Return the paper cassette to the MFP.

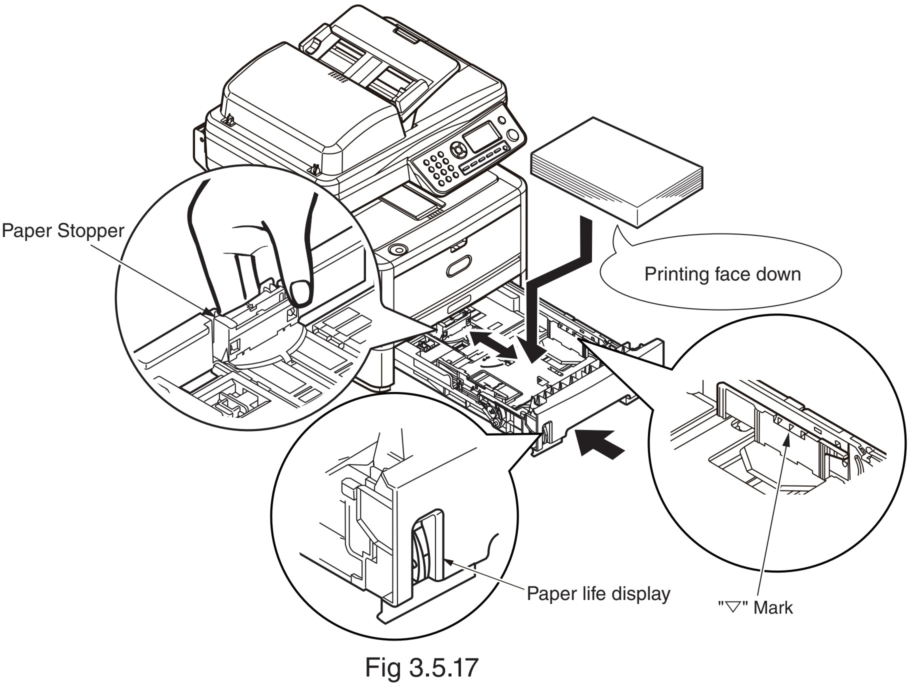

Paper Stopper
Printing face down
Paper life display
"▽" Mark

Fig 3.5.17

Load Paper in the Manual Feed Opening

(1) Put a finger in the dent at the center of the manual feed opening and pull forward.

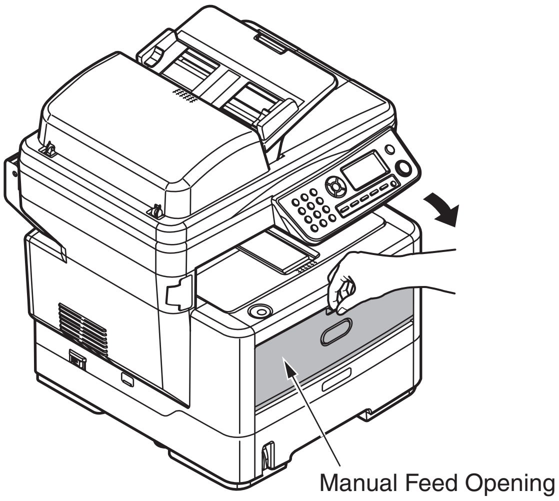
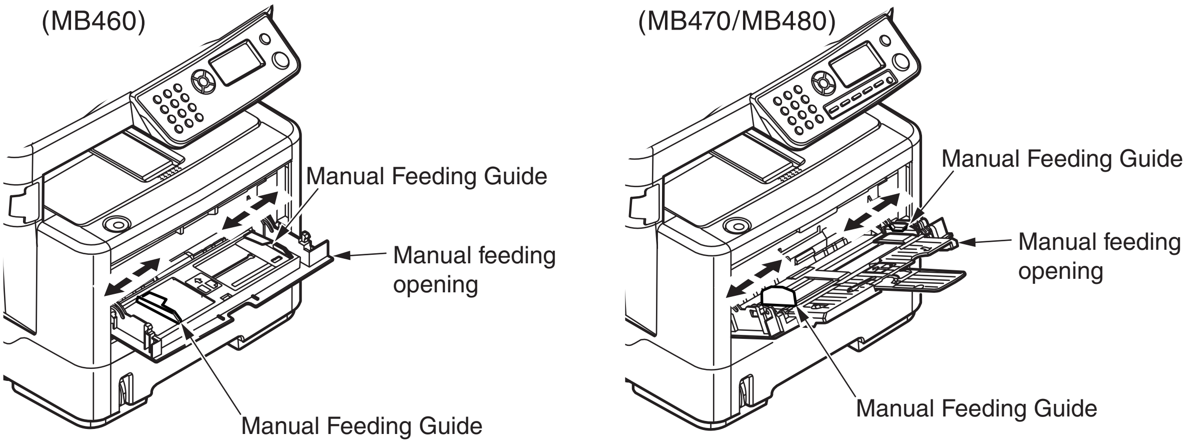

Manual Feed Opening

Fig 3.5.18

(2) Conform the manual feeding guide to the size of the paper.

(3) Arrange the left and right of the paper.

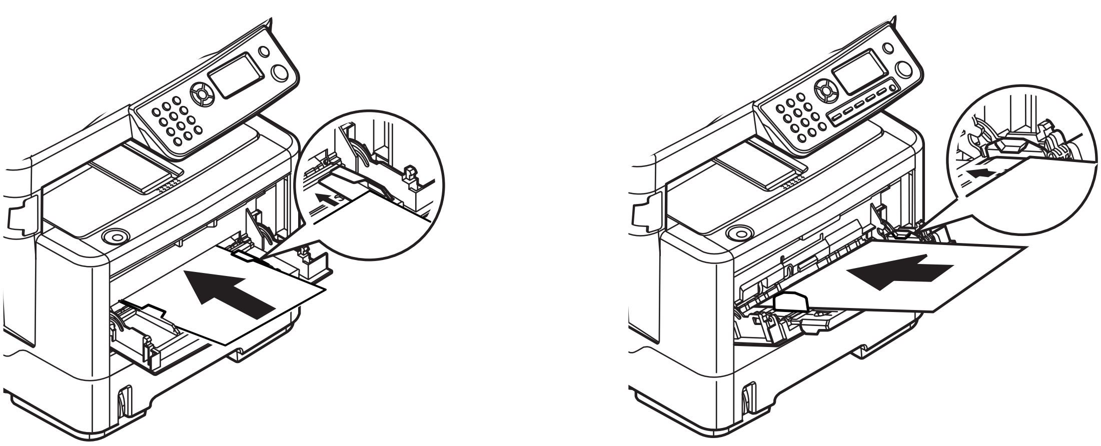

(MB460)

(MB470/MB480)

Manual Feeding Guide
Manual feeding opening
Manual Feeding Guide
Manual Feeding Guide
Manual feeding opening
Manual Feeding Guide

Fig 3.5.19

(4) Make the printing side up and insert the paper straight to the rear end along the manual feed guide.


(MB460)

(MB470/MB480)

Fig 3.5.20

Placing the Original

In the Auto Document Feeder

(1) Make sure your document is free of staples, paper clips and is not tore out.

(2) If you have multiple pages, fan your document(s) to avoid occasional paper jam. The ADF holds up to 50 pages at one time.

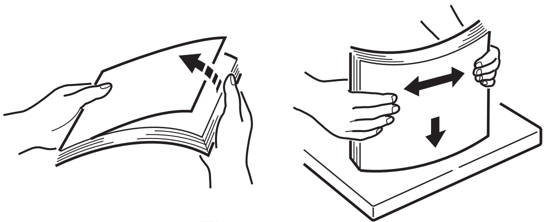


Fig 3.5.21

(3) Place your document(s) with the text FACE UP in the ADF.

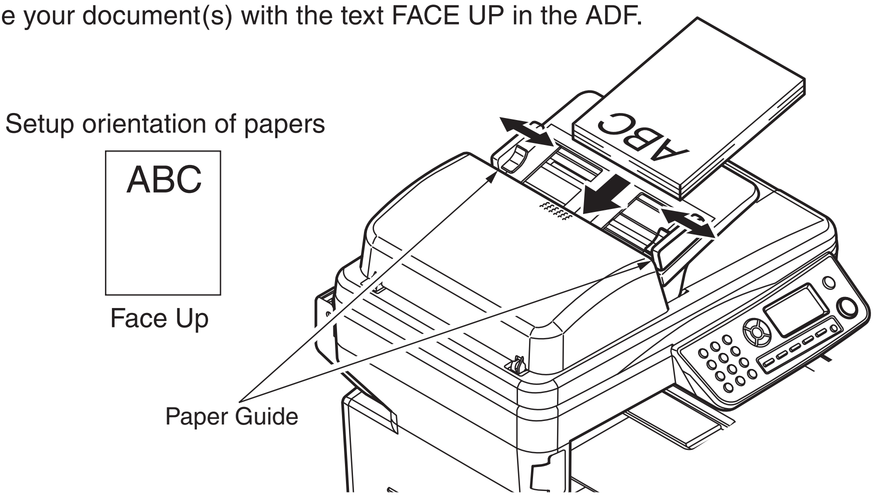

Setup orientation of papers
ABC
Face Up
Paper Guide
ABC

Fig 3.5.22

(4) Adjust the Paper Guides to center the document(s) in the ADF.

On the Document Glass

(1) Place your original with the text face down on the document glass.

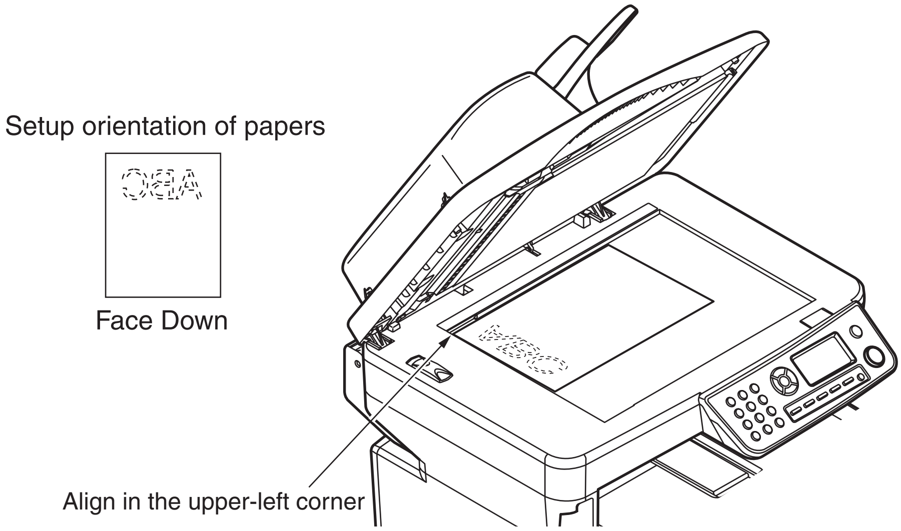

Setup orientation of papers
Face Down
Align in the upper-left corner

Fig 3.5.23

3.5.2 Power Cable Connection

Conditions for Power Supplies

- Observe the following conditions:
  Alternate Current (AC) : 110 ~127VAC(Range 99~140VAC)/220 ~240VAC(Range 198~264VAC)
  Power Supply Frequency : 50Hz or 60Hz±2%
- Use a voltage regulator when the power supply is not stable.
- The maximum power consumption of this MFP is 800W. Confirm that the power supply has sufficient extra capacity.

Table 3.5.1

⚠Warning It may expose you to electric shocks or cause a fire.

- Never fail to switch off the power supply at the time of connection or removal of the electric cord and earth cable.
- Always connect the earth cable to the earth terminal equipped only for that purpose. Never connect the earth cable with water pipe, gas pipe, telephone cable earth terminal, lightening rod, etc.
- Always grasp the power plug at the time of connection and removal of the electric cord.
- Always make sure that the electric plug is inserted fully into the outlet.
- Do not connect or disconnect the electric plug with the wet hand.
- Do not install the electric cord at the place liable to be stepped on and do not put things on the electric cord.
- Do not bundle up or tie up the electric cord
- Do not use the damaged electric cord.
- Do not put many loads on one electric outlet.
- Do not connect this MFP to the same outlet with other electric machines. Particularly, erroneous operation may occur by electric noise when the same outlet is shared by the air conditioner, duplicator, shredder, etc. at the same time. When the same outlet had to be used, use a noise filter or noise cut transformer on the market.
- Use the attached electric cord only.
- Do not use an extension cord. Use the cord of over rating 15A if you had to use one.
- When you use the extension cord, the MFP may not operate normally due to the drop of AC voltage.
- Do not shut down the power supply or remove the power plug while printing.
- Disconnect the power cord when the MFP would not be used for some long while due to consecutive holidays or journey.

As to the connection of the electric cord and earth cable, explain fully to the customer showing the User's Manual.

Connect Power Supply Cord

Note! Be certain the power switch is placed in the OFF (O) position.

(1) Insert the electric cord in the MFP.

(2) Connect the earth wire to the earth terminal of the AC power source outlet.

(3) Connect the AC power cord insertion plug to the AC power source outlet.

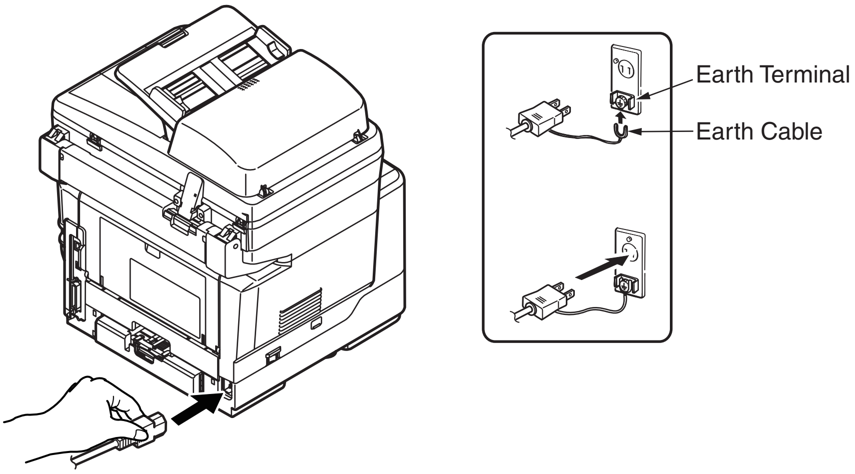


Fig 3.5.24

Press ON (I) of Power Switch

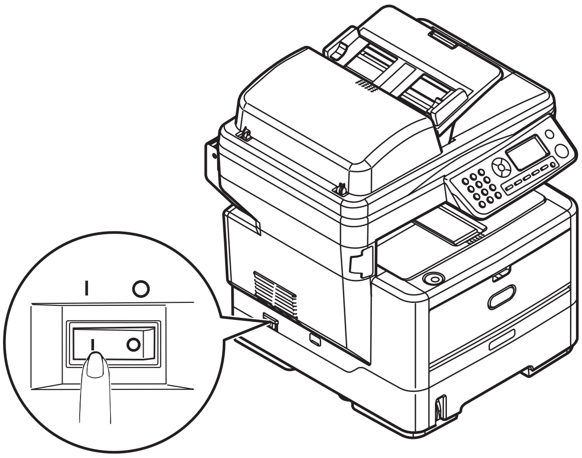


Fig 3.5.25

3.5.3 Installation of Optional Components

(1) Extension Memory Installation

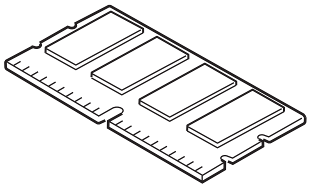


Fig 3.5.26

Table 3.5.2

Type	On-board	Memory slot	Total
N/A (Standard)	64MB	-	64MB
64MB option DIMM MEM64D	64MB	64MB	128MB
256MB option DIMM MEM256D	64MB	256MB	320MB

Note!
- You must use genuine Oki Original. Otherwise, the memory will not work.
- A 64MB memory is installed as standard in the memory slot. If you use a 256MB memory, remove the 64MB memory before use.

Switch the power supply of the MFP off and pull out the electric cord.

Note! If installed with the switch on, an electric shock or a trouble to the MFP may occur.

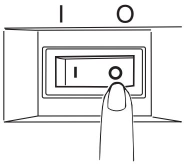


Fig 3.5.27

Open the memory cover.

1) Release the lock by pushing the knob of the memory cover in the direction of the arrow and open the memory cover.

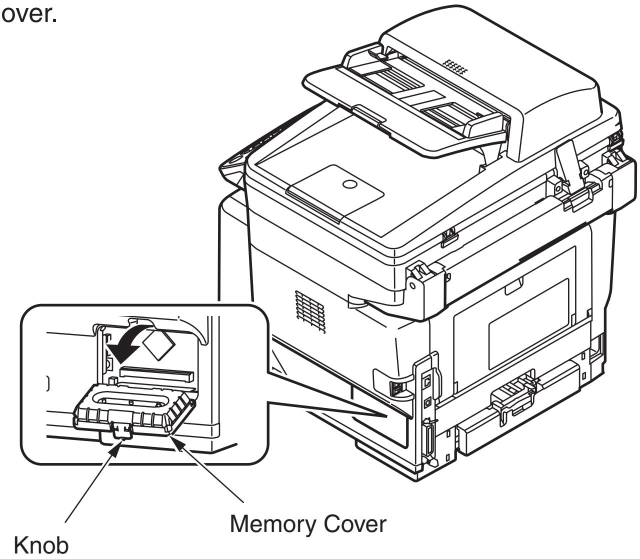


Fig 3.5.28

Install the memory.

Note! Do not touch electronic parts and connector terminal.

1) Neutralize static electricity by letting the bag touch the metal part before taking out the memory from the bag.
2) Pay attention to the direction of the memory. There is a cut on the terminal part of the memory to fit it into the connector of the slot.
3) Insert the memory in the empty slot and bring it down to the circuit board side.

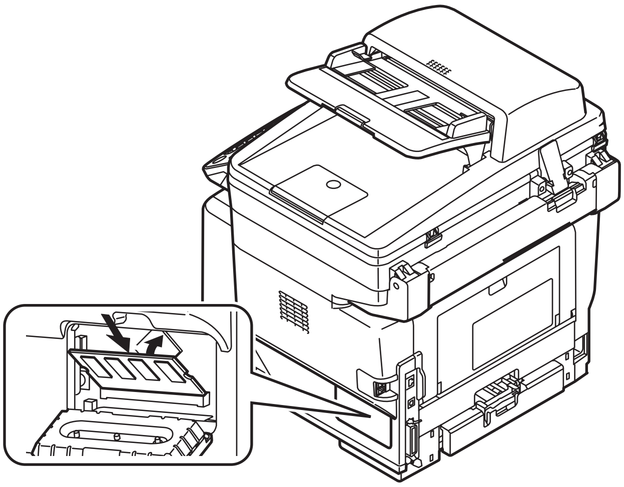


Fig 3.5.29

Close the memory cover.

1) Close the memory cover. Confirm that it is firmly locked.

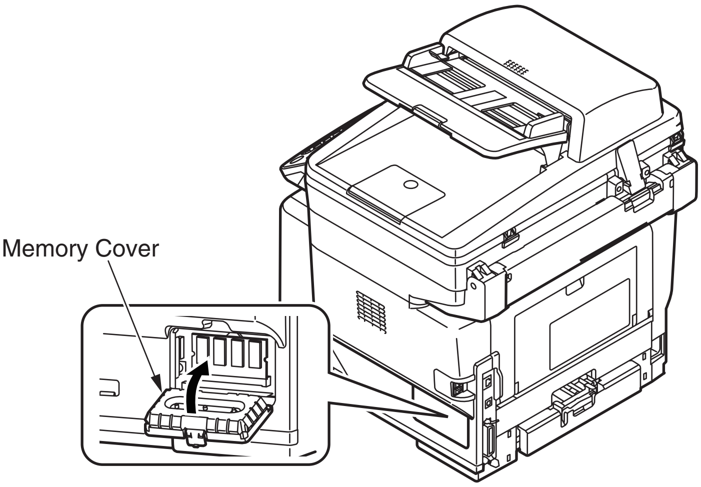


Fig 3.5.30

(2) Installation of second tray unit

This tray is intended to increase the amount of paper that can be loaded in the MFP. It holds 530 sheets of 70kg ream weight paper, allowing to print 1110(MB480) sheets continuously when combined with the standard paper cassette and multi-purpose tray.

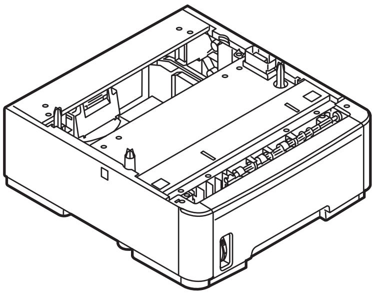


Fig 3.5.31

Turning OFF the MFP power and disconnecting the power cord

Note! If an expansion memory is installed with the power switched ON, the MFP may be broken.

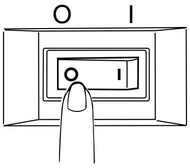


Fig 3.5.32

Placing the MFP on the second tray unit.

Note! The MFP weighs Approx. 19kg (MB480).

1) Align the holes in the bottom of the MFP to the protrusions of the second tray unit.
2) Place the MFP gently on the second tray unit.

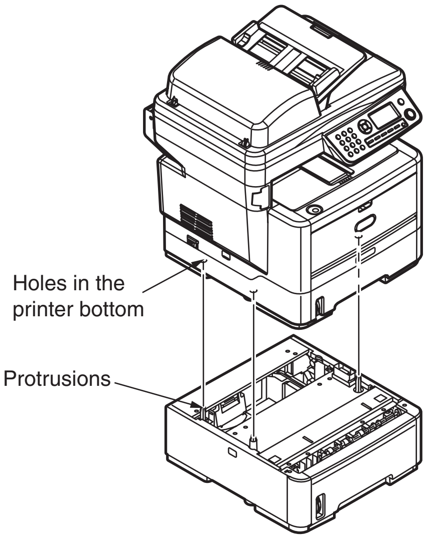


Fig 3.5.33

3) Remove the four Cover-pieces in the direction of the arrow. Do not put or drop the Cover-pieces inside the MFP.

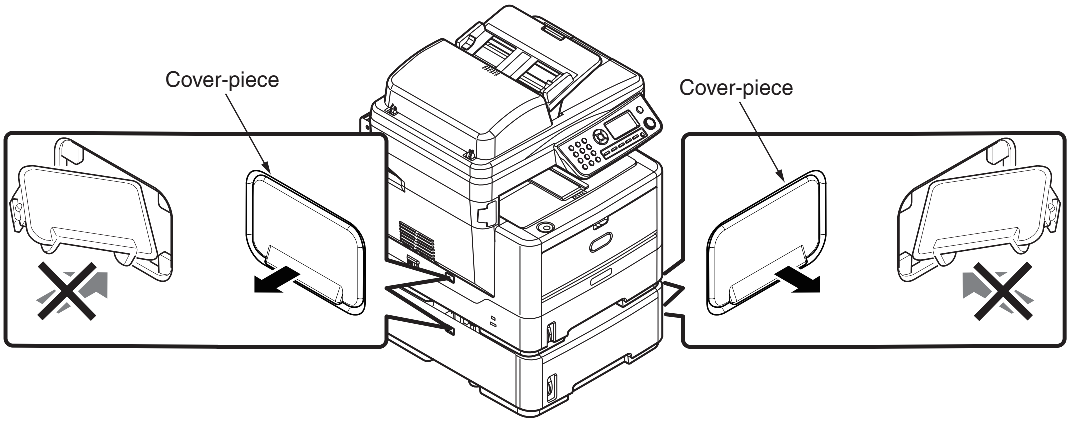

Cover-piece
Cover-piece

Fig 3.5.34

4) Attach the two 2nd-pieces as shown in Fig. 3.5.35.
To detach the second tray unit, follow the same procedure inversely.

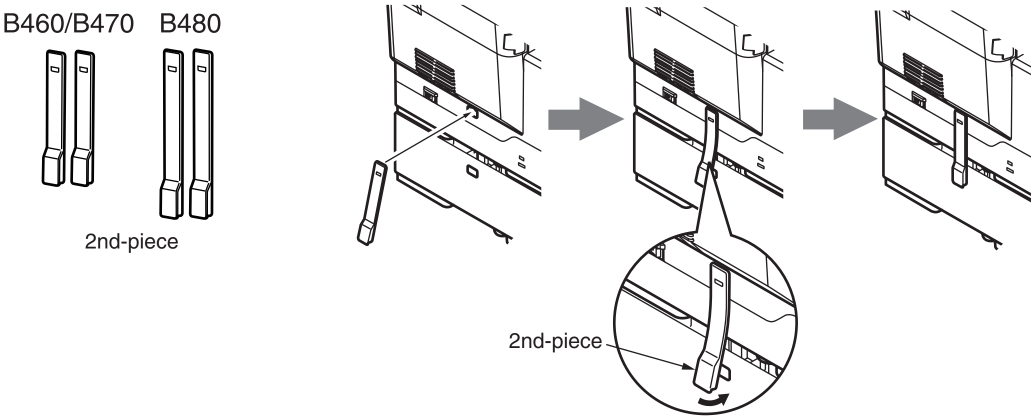
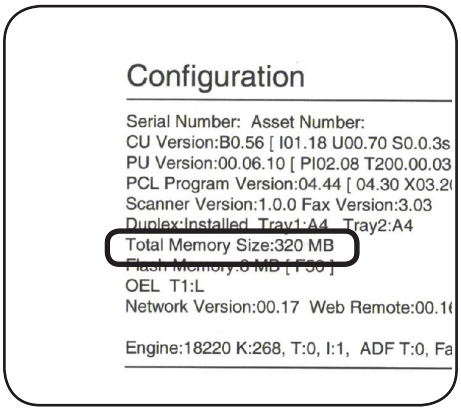

B460/B470
B480
2nd-piece
2nd-piece

Fig 3.5.35

3.5.4 Confirm the Recognition of Option

In order to confirm that the items of option are correctly installed, conduct the menu map printing referring to “3.6 Configuration Page Print”.

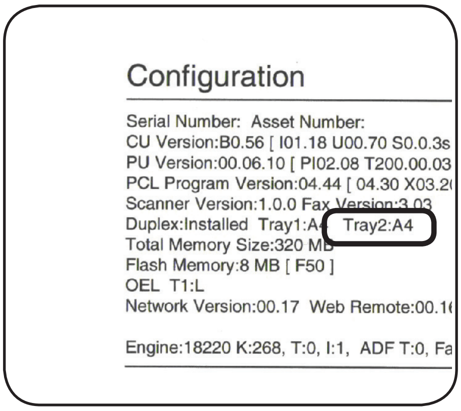
(1) Confirm Recognition of Additional Memory
Confirm the contents of the configuration pages.
Confirm the total memory size displayed as “TOTAL MEMORY SIZE” in the header portion.



```
Configuration

Serial Number:  Asset Number:
CU Version:B0.56 [ I01.18 U00.70 S0.0.3s
PU Version:00.06.10 [ PI02.08 T200.00.03
PCL Program Version:04.44 [ 04.30 X03.2
Scanner Version:1.0.0 Fax Version:3.03
Duplex:Installed  Tray1:A4   Tray2:A4
Total Memory Size:320 MB
Flash Memory:8 MB [ F50 ]
OEL  T1:L
Network Version:00.17  Web Remote:00.1

Engine:18220 K:268, T:0, I:1,  ADF T:0, Fa
```

Fig 3.5.36

(2) Confirm Recognition of second tray
Confirm the contents of the configuration pages.
Confirm the displayed as "Tray 2" in the header portion.



```
Configuration

Serial Number:  Asset Number:
CU Version:B0.56 [ I01.18 U00.70 S0.0.3s
PU Version:00.06.10 [ PI02.08 T200.00.03
PCL Program Version:04.44 [ 04.30 X03.2
Scanner Version:1.0.0 Fax Version:3.03
Duplex:Installed  Tray1:A4   Tray2:A4
Total Memory Size:320 MB
Flash Memory:8 MB [ F50 ]
OEL  T1:L
Network Version:00.17  Web Remote:00.1

Engine:18220 K:268, T:0, I:1,  ADF T:0, Fa
```

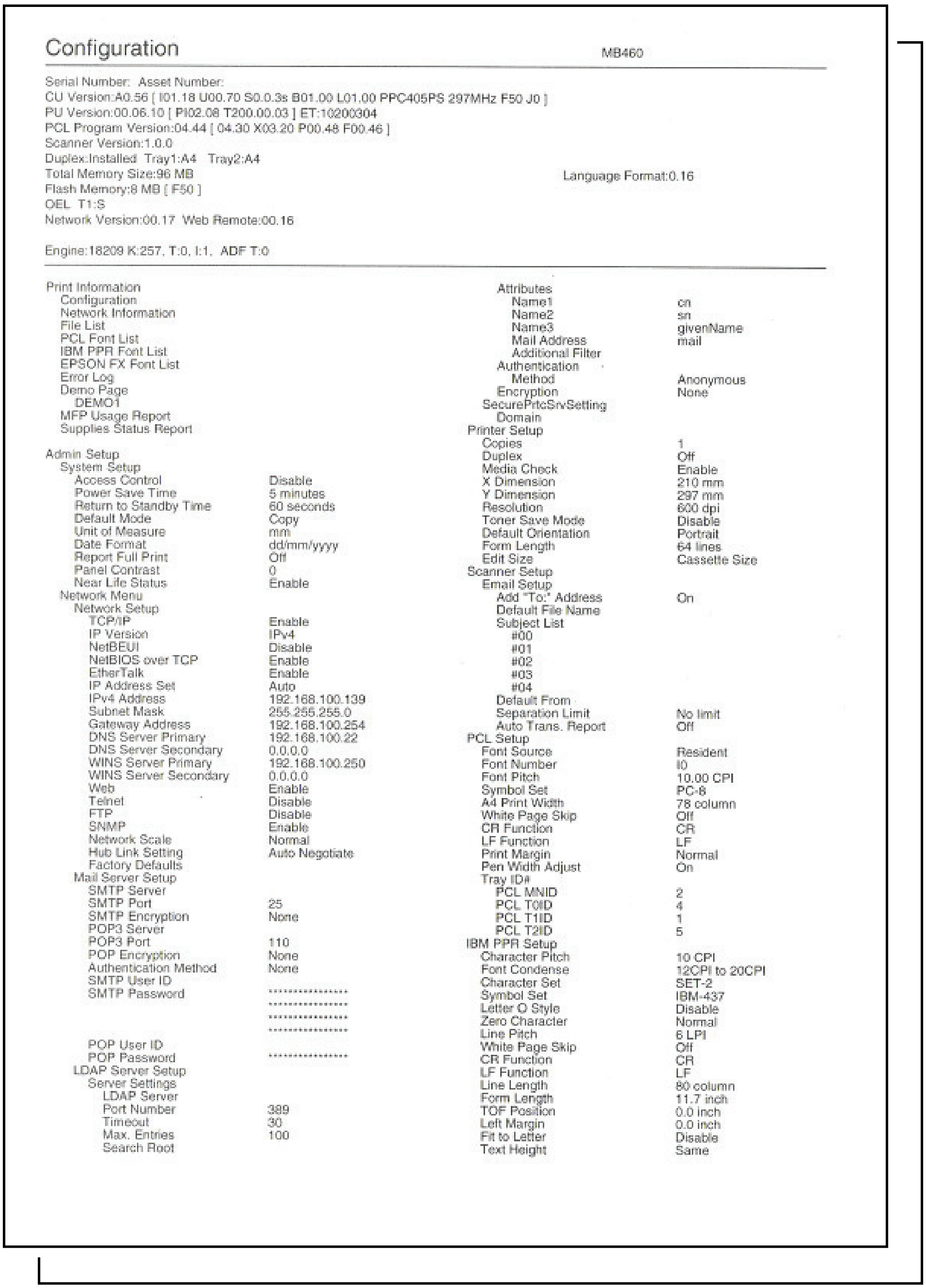
Fig 3.5.37

3.6 Configuration Page Print

Make sure that the MFP operates normally.

(1) Set sheets of A4 paper in the tray.
(2) From the panel menu, select "Menu".
(Press the down button to go to "Menu" and then press the enter button.)
(3) Select "Print Information".
(Press the down button to go to "Print Information" and then press the enter button.)
(4) Select "Configuration".
(5) Select "Execute".

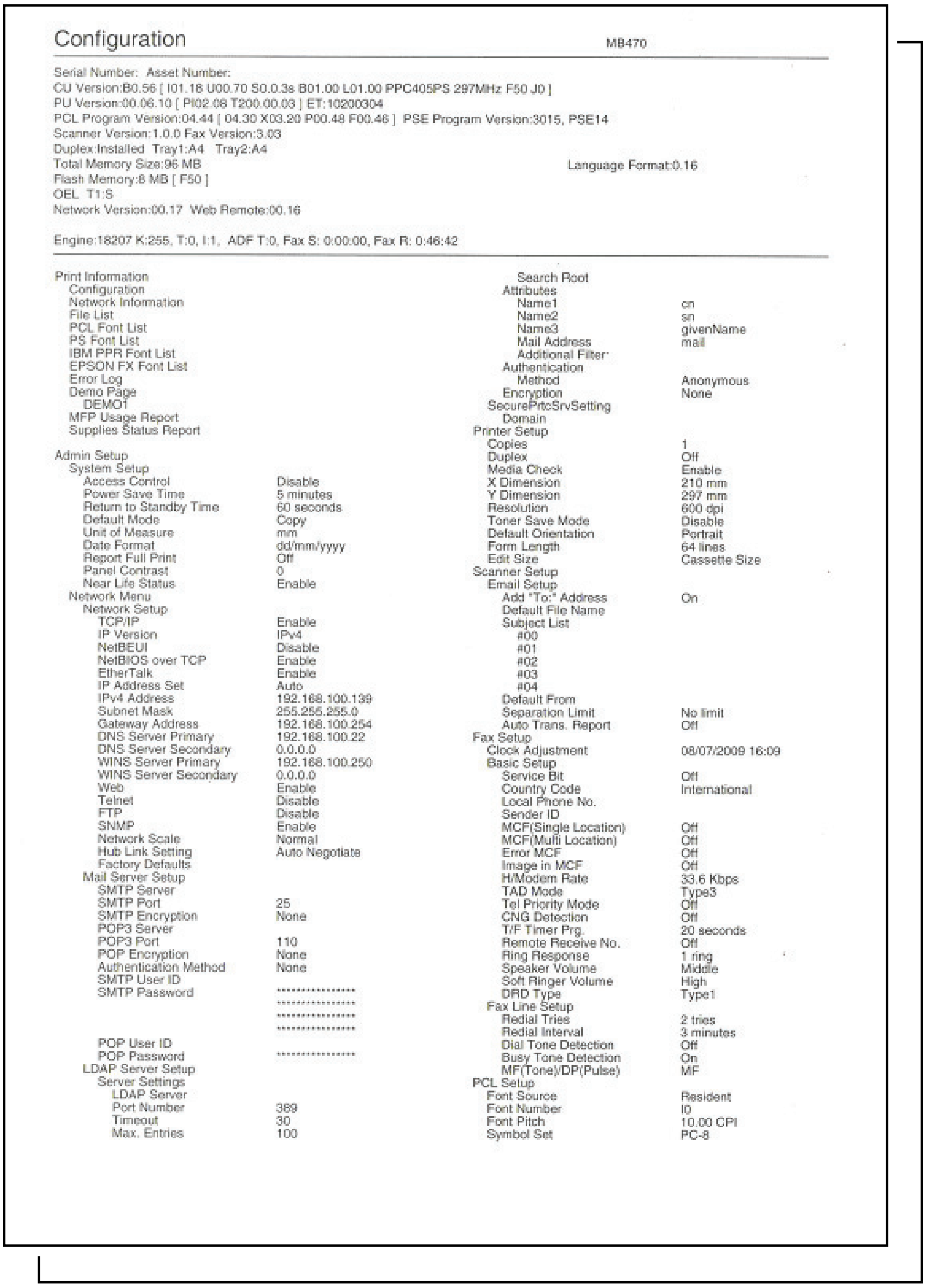
(Sample) MB460



```
Configuration                                         MB460

Serial Number:  Asset Number:
CU Version:A0.56 [ I01.18 U00.70 S0.0.3s B01.00 L01.00 PPC405PS 297MHz F50 J0 ]
PU Version:00.06.10 [ PI02.08 T200.00.03 ] ET:10200304
PCL Program Version:04.44 [ 04.30 X03.20 P00.48 F00.46 ]
Scanner Version:1.0.0
Duplex:Installed  Tray1:A4   Tray2:A4
Total Memory Size:96 MB                               Language Format:0.16
Flash Memory:8 MB [ F50 ]
OEL  T1:S
Network Version:00.17  Web Remote:00.16

Engine:18209 K:257, T:0, I:1,  ADF T:0

Print Information
   Configuration
   Network Information
   File List
   PCL Font List
   IBM PPR Font List
   EPSON FX Font List
   Error Log
   Demo Page
      DEMO1
   MFP Usage Report
   Supplies Status Report

Admin Setup
   System Setup
      Access Control                  Disable
      Power Save Time                 5 minutes
      Return to Standby Time          60 seconds
      Default Mode                    Copy
      Unit of Measure                 mm
      Date Format                     dd/mm/yyyy
      Report Full Print               Off
      Panel Contrast                  0
      Near Life Status                Enable
   Network Menu
      Network Setup
         TCP/IP                       Enable
         IP Version                   IPv4
         NetBEUI                      Disable
         NetBIOS over TCP             Enable
         EtherTalk                    Enable
         IP Address Set               Auto
         IPv4 Address                 192.168.100.139
         Subnet Mask                  255.255.255.0
         Gateway Address              192.168.100.254
         DNS Server Primary           192.168.100.22
         DNS Server Secondary         0.0.0.0
         WINS Server Primary          192.168.100.250
         WINS Server Secondary        0.0.0.0
         Web                          Enable
         Telnet                       Disable
         FTP                          Disable
         SNMP                         Enable
         Network Scale                Normal
         Hub Link Setting             Auto Negotiate
         Factory Defaults
      Mail Server Setup
         SMTP Server
         SMTP Port                    25
         SMTP Encryption              None
         POP3 Server
         POP3 Port                    110
         POP Encryption               None
         Authentication Method        None
         SMTP User ID
         SMTP Password                ****************
                                      ****************
                                      ****************
                                      ****************
         POP User ID
         POP Password                 ****************
      LDAP Server Setup
         Server Settings
            LDAP Server
            Port Number               389
            Timeout                   30
            Max. Entries              100
            Search Root

         Attributes
            Name1                     cn
            Name2                     sn
            Name3                     givenName
            Mail Address              mail
            Additional Filter
         Authentication
            Method                    Anonymous
         Encryption                   None
      SecurePrtcSrvSetting
         Domain
   Printer Setup
      Copies                          1
      Duplex                          Off
      Media Check                     Enable
      X Dimension                     210 mm
      Y Dimension                     297 mm
      Resolution                      600 dpi
      Toner Save Mode                 Disable
      Default Orientation             Portrait
      Form Length                     64 lines
      Edit Size                       Cassette Size
   Scanner Setup
      Email Setup
         Add "To:" Address            On
         Default File Name
         Subject List
            #00
            #01
            #02
            #03
            #04
         Default From
         Separation Limit             No limit
         Auto Trans. Report           Off
   PCL Setup
      Font Source                     Resident
      Font Number                     I0
      Font Pitch                      10.00 CPI
      Symbol Set                      PC-8
      A4 Print Width                  78 column
      White Page Skip                 Off
      CR Function                     CR
      LF Function                     LF
      Print Margin                    Normal
      Pen Width Adjust                On
      Tray ID#
         PCL MNID                     2
         PCL T0ID                     4
         PCL T1ID                     1
         PCL T2ID                     5
   IBM PPR Setup
      Character Pitch                 10 CPI
      Font Condense                   12CPI to 20CPI
      Character Set                   SET-2
      Symbol Set                      IBM-437
      Letter O Style                  Disable
      Zero Character                  Normal
      Line Pitch                      6 LPI
      White Page Skip                 Off
      CR Function                     CR
      LF Function                     LF
      Line Length                     80 column
      Form Length                     11.7 inch
      TOF Position                    0.0 inch
      Left Margin                     0.0 inch
      Fit to Letter                   Disable
      Text Height                     Same
```

Fig 3.6.1

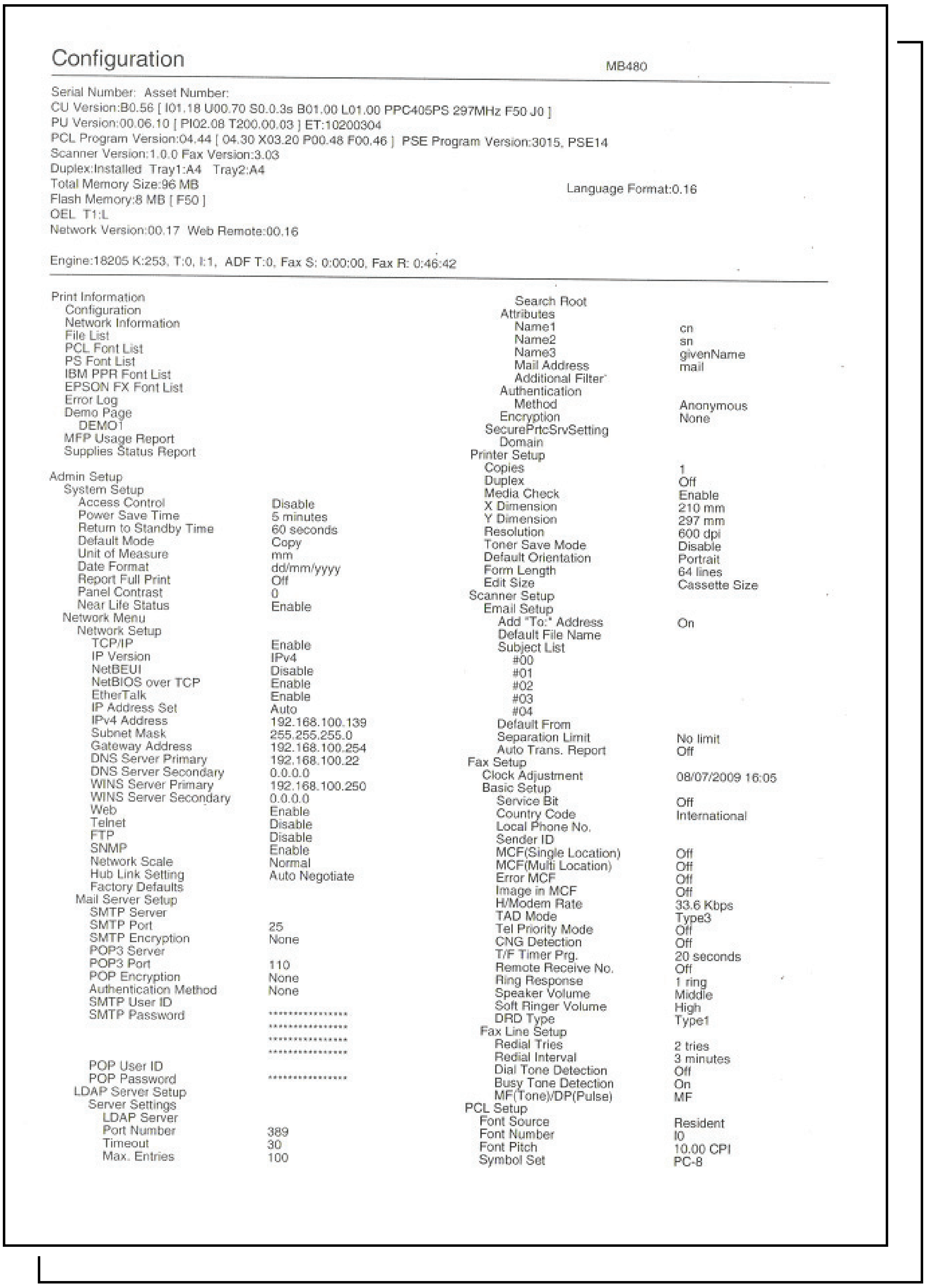
(Sample) MB470



```
Configuration                                                    MB470

Serial Number:  Asset Number:
CU Version:B0.56 [ I01.18 U00.70 S0.0.3s B01.00 L01.00 PPC405PS 297MHz F50 J0 ]
PU Version:00.06.10 [ PI02.08 T200.00.03 ] ET:10200304
PCL Program Version:04.44 [ 04.30 X03.20 P00.48 F00.46 ]  PSE Program Version:3015, PSE14
Scanner Version:1.0.0 Fax Version:3.03
Duplex:Installed  Tray1:A4   Tray2:A4
Total Memory Size:96 MB                                    Language Format:0.16
Flash Memory:8 MB [ F50 ]
OEL  T1:S
Network Version:00.17  Web Remote:00.16

Engine:18207 K:255, T:0, I:1,  ADF T:0, Fax S: 0:00:00, Fax R: 0:46:42

Print Information
   Configuration
   Network Information
   File List
   PCL Font List
   PS Font List
   IBM PPR Font List
   EPSON FX Font List
   Error Log
   Demo Page
      DEMO1
   MFP Usage Report
   Supplies Status Report

Admin Setup
   System Setup
      Access Control                  Disable
      Power Save Time                 5 minutes
      Return to Standby Time          60 seconds
      Default Mode                    Copy
      Unit of Measure                 mm
      Date Format                     dd/mm/yyyy
      Report Full Print               Off
      Panel Contrast                  0
      Near Life Status                Enable
   Network Menu
      Network Setup
         TCP/IP                       Enable
         IP Version                   IPv4
         NetBEUI                      Disable
         NetBIOS over TCP             Enable
         EtherTalk                    Enable
         IP Address Set               Auto
         IPv4 Address                 192.168.100.139
         Subnet Mask                  255.255.255.0
         Gateway Address              192.168.100.254
         DNS Server Primary           192.168.100.22
         DNS Server Secondary         0.0.0.0
         WINS Server Primary          192.168.100.250
         WINS Server Secondary        0.0.0.0
         Web                          Enable
         Telnet                       Disable
         FTP                          Disable
         SNMP                         Enable
         Network Scale                Normal
         Hub Link Setting             Auto Negotiate
         Factory Defaults
      Mail Server Setup
         SMTP Server
         SMTP Port                    25
         SMTP Encryption              None
         POP3 Server
         POP3 Port                    110
         POP Encryption               None
         Authentication Method        None
         SMTP User ID
         SMTP Password                ****************
                                      ****************
                                      ****************
                                      ****************
         POP User ID
         POP Password                 ****************
      LDAP Server Setup
         Server Settings
            LDAP Server
            Port Number               389
            Timeout                   30
            Max. Entries              100
            Search Root
         Attributes
            Name1                     cn
            Name2                     sn
            Name3                     givenName
            Mail Address              mail
            Additional Filter:
         Authentication
            Method                    Anonymous
         Encryption                   None
      SecurePrtcSrvSetting
         Domain
Printer Setup
   Copies                             1
   Duplex                             Off
   Media Check                        Enable
   X Dimension                        210 mm
   Y Dimension                        297 mm
   Resolution                         600 dpi
   Toner Save Mode                    Disable
   Default Orientation                Portrait
   Form Length                        64 lines
   Edit Size                          Cassette Size
Scanner Setup
   Email Setup
      Add "To:" Address               On
      Default File Name
      Subject List
         #00
         #01
         #02
         #03
         #04
      Default From
      Separation Limit                No limit
      Auto Trans. Report              Off
Fax Setup
   Clock Adjustment                   08/07/2009 16:09
   Basic Setup
      Service Bit                     Off
      Country Code                    International
      Local Phone No.
      Sender ID
      MCF(Single Location)            Off
      MCF(Multi Location)             Off
      Error MCF                       Off
      Image in MCF                    Off
      H/Modem Rate                    33.6 Kbps
      TAD Mode                        Type3
      Tel Priority Mode               Off
      CNG Detection                   Off
      T/F Timer Prg.                  20 seconds
      Remote Receive No.              Off
      Ring Response                   1 ring
      Speaker Volume                  Middle
      Soft Ringer Volume              High
      DRD Type                        Type1
   Fax Line Setup
      Redial Tries                    2 tries
      Redial Interval                 3 minutes
      Dial Tone Detection             Off
      Busy Tone Detection             On
      MF(Tone)/DP(Pulse)              MF
PCL Setup
   Font Source                        Resident
   Font Number                        I0
   Font Pitch                         10.00 CPI
   Symbol Set                         PC-8
```

Fig 3.6.2

(Sample) MB480



```
Configuration                                                  MB480

Serial Number:  Asset Number:
CU Version:B0.56 [ I01.18 U00.70 S0.0.3s B01.00 L01.00 PPC405PS 297MHz F50 J0 ]
PU Version:00.06.10 [ PI02.08 T200.00.03 ] ET:10200304
PCL Program Version:04.44 [ 04.30 X03.20 P00.48 F00.46 ]  PSE Program Version:3015, PSE14
Scanner Version:1.0.0 Fax Version:3.03
Duplex:Installed  Tray1:A4   Tray2:A4
Total Memory Size:96 MB                                   Language Format:0.16
Flash Memory:8 MB [ F50 ]
OEL  T1:L
Network Version:00.17  Web Remote:00.16

Engine:18205 K:253, T:0, I:1,  ADF T:0, Fax S: 0:00:00, Fax R: 0:46:42

Print Information
   Configuration
   Network Information
   File List
   PCL Font List
   PS Font List
   IBM PPR Font List
   EPSON FX Font List
   Error Log
   Demo Page
      DEMO1
   MFP Usage Report
   Supplies Status Report

Admin Setup
   System Setup
      Access Control                  Disable
      Power Save Time                 5 minutes
      Return to Standby Time          60 seconds
      Default Mode                    Copy
      Unit of Measure                 mm
      Date Format                     dd/mm/yyyy
      Report Full Print               Off
      Panel Contrast                  0
      Near Life Status                Enable
   Network Menu
      Network Setup
         TCP/IP                       Enable
         IP Version                   IPv4
         NetBEUI                      Disable
         NetBIOS over TCP             Enable
         EtherTalk                    Enable
         IP Address Set               Auto
         IPv4 Address                 192.168.100.139
         Subnet Mask                  255.255.255.0
         Gateway Address              192.168.100.254
         DNS Server Primary           192.168.100.22
         DNS Server Secondary         0.0.0.0
         WINS Server Primary          192.168.100.250
         WINS Server Secondary        0.0.0.0
         Web                          Enable
         Telnet                       Disable
         FTP                          Disable
         SNMP                         Enable
         Network Scale                Normal
         Hub Link Setting             Auto Negotiate
         Factory Defaults
      Mail Server Setup
         SMTP Server
         SMTP Port                    25
         SMTP Encryption              None
         POP3 Server
         POP3 Port                    110
         POP Encryption               None
         Authentication Method        None
         SMTP User ID
         SMTP Password                ****************
                                      ****************
                                      ****************
                                      ****************
         POP User ID
         POP Password                 ****************
      LDAP Server Setup
         Server Settings
            LDAP Server
            Port Number               389
            Timeout                   30
            Max. Entries              100

            Search Root
         Attributes
            Name1                     cn
            Name2                     sn
            Name3                     givenName
            Mail Address              mail
            Additional Filter
         Authentication
            Method                    Anonymous
         Encryption                   None
      SecurePrtcSrvSetting
         Domain
   Printer Setup
      Copies                          1
      Duplex                          Off
      Media Check                     Enable
      X Dimension                     210 mm
      Y Dimension                     297 mm
      Resolution                      600 dpi
      Toner Save Mode                 Disable
      Default Orientation             Portrait
      Form Length                     64 lines
      Edit Size                       Cassette Size
   Scanner Setup
      Email Setup
         Add "To:" Address            On
         Default File Name
         Subject List
            #00
            #01
            #02
            #03
            #04
         Default From
         Separation Limit             No limit
         Auto Trans. Report           Off
   Fax Setup
      Clock Adjustment                08/07/2009 16:05
      Basic Setup
         Service Bit                  Off
         Country Code                 International
         Local Phone No.
         Sender ID
         MCF(Single Location)         Off
         MCF(Multi Location)          Off
         Error MCF                    Off
         Image in MCF                 Off
         H/Modem Rate                 33.6 Kbps
         TAD Mode                     Type3
         Tel Priority Mode            Off
         CNG Detection                Off
         T/F Timer Prg.               20 seconds
         Remote Receive No.           Off
         Ring Response                1 ring
         Speaker Volume               Middle
         Soft Ringer Volume           High
         DRD Type                     Type1
      Fax Line Setup
         Redial Tries                 2 tries
         Redial Interval              3 minutes
         Dial Tone Detection          Off
         Busy Tone Detection          On
         MF(Tone)/DP(Pulse)           MF
   PCL Setup
      Font Source                     Resident
      Font Number                     I0
      Font Pitch                      10.00 CPI
      Symbol Set                      PC-8
```

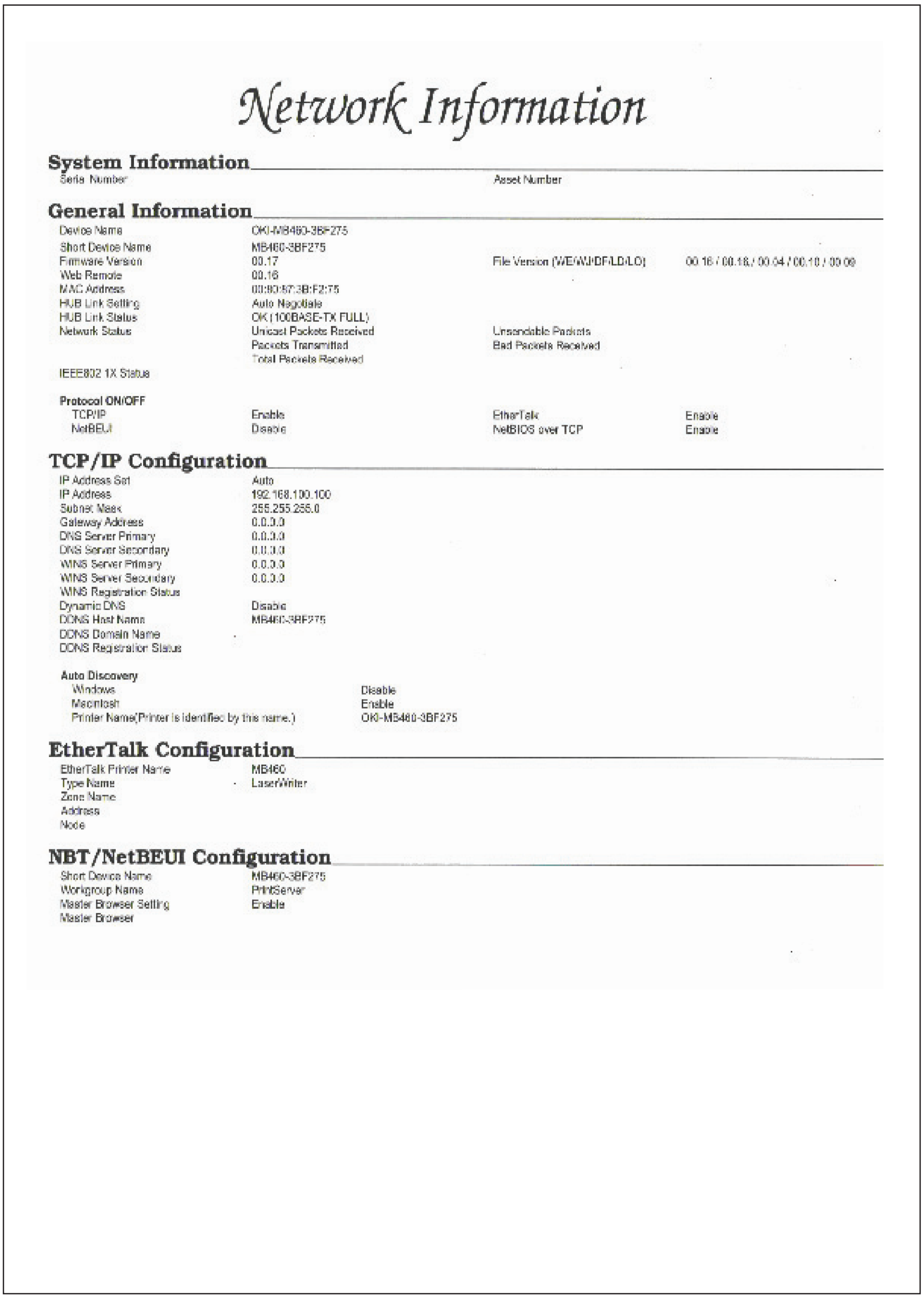
Fig 3.6.3

3.7 Network Information Print

Confirm the network information print.

(1) Push the TEST switch beside the network connector on the back of the MFP for 5 seconds and release. Then the network information will be printed.

(Sample) In case of MB460



```
Network Information

System Information
  Serial Number                                           Asset Number

General Information
  Device Name            OKI-MB460-3BF275
  Short Device Name      MB460-3BF275
  Firmware Version       00.17                            File Version (WE/WJ/DF/LD/LO)   00.16 / 00.18 / 00.04 / 00.10 / 00.09
  Web Remote             00.16
  MAC Address            00:80:87:3B:F2:75
  HUB Link Setting       Auto Negotiate
  HUB Link Status        OK (100BASE-TX FULL)
  Network Status         Unicast Packets Received         Unsendable Packets
                         Packets Transmitted              Bad Packets Received
                         Total Packets Received
  IEEE802.1X Status

  Protocol ON/OFF
    TCP/IP               Enable                           EtherTalk                       Enable
    NetBEUI              Disable                          NetBIOS over TCP                Enable

TCP/IP Configuration
  IP Address Set         Auto
  IP Address             192.168.100.100
  Subnet Mask            255.255.255.0
  Gateway Address        0.0.0.0
  DNS Server Primary     0.0.0.0
  DNS Server Secondary   0.0.0.0
  WINS Server Primary    0.0.0.0
  WINS Server Secondary  0.0.0.0
  WINS Registration Status
  Dynamic DNS            Disable
  DDNS Host Name         MB460-3BF275
  DDNS Domain Name
  DDNS Registration Status

  Auto Discovery
    Windows                                       Disable
    Macintosh                                     Enable
    Printer Name(Printer is identified by this name.)  OKI-MB460-3BF275

EtherTalk Configuration
  EtherTalk Printer Name  MB460
  Type Name               LaserWriter
  Zone Name
  Address
  Node

NBT/NetBEUI Configuration
  Short Device Name      MB460-3BF275
  Workgroup Name         PrintServer
  Master Browser Setting Enable
  Master Browser
```

Fig 3.7.1

3.8 Connection Procedures

<USB Connection>

Prepare a USB Cable.

Note!
- The cable of the MFP is not attached. Users should buy seperately.
- Obtain the cable of USB specification by yourself.
- Use the USB cable of Hi-Speed specification in case the connection is to be made using "HI-Speed" mode of USB2.0.

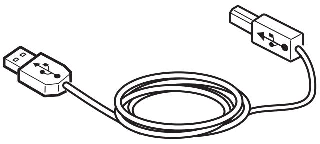


Fig 3.8.1

Switch off the power of the MFP and computer.

Memo Although the USB cable can be connected or removed with the switch of the computer and printer on, switch off the power of the MFP at this step in order to ensure installation of the MFP driver and USB driver later.

Connect the MFP with the computer.

(1) Plug the USB cable into the USB interface connector of the MFP.

(2) Plug the USB cable into the USB interface connector of the computer.

Note! Be careful not to insert the USB cable into the network interface connector. Or else it may cause troubles.

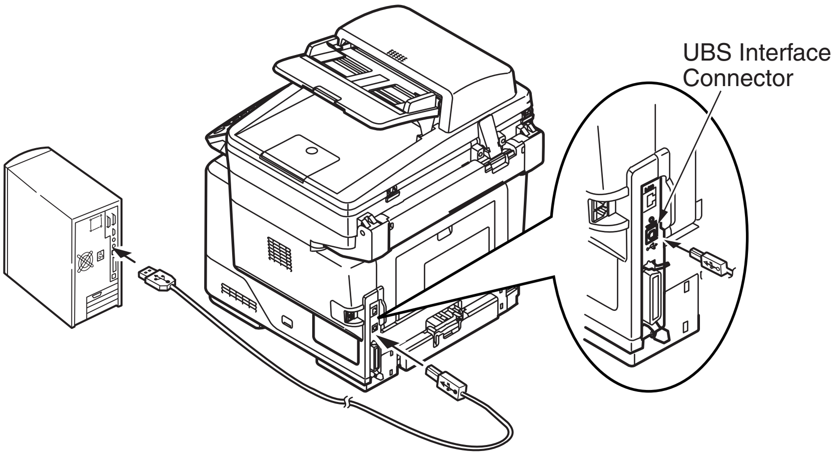


Fig 3.8.2

<LAN Cable Connection>

Prepare the LAN cable.

Switch off the power of the MFP and computer.

Connect the computer and MFP.

(1) Plug the Ethernet cable into the network interface connector of the MFP.

(2) Plug the Ethernet cable into the hub.

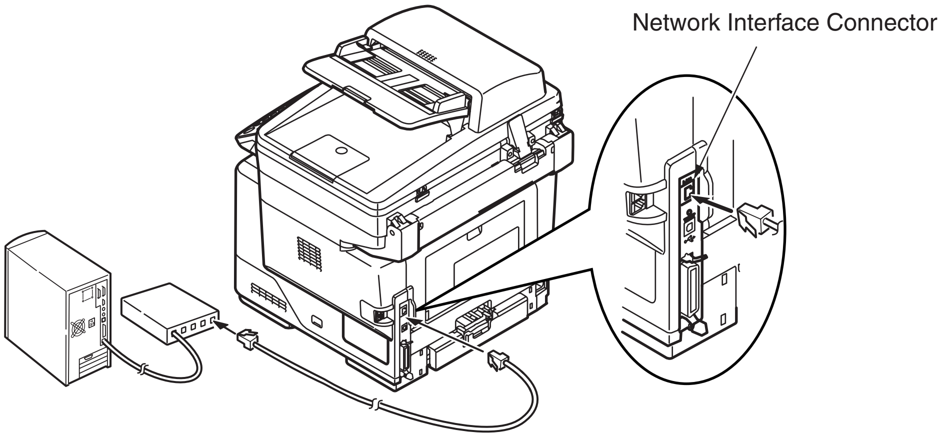

Network Interface Connector

Fig 3.8.3

<TEL cable. Line Cable Connection>Note! only MB470/MB480

Prepare the TEL cable and Line cable.

Preparing cores

Memo Use two longer ones of two kinds cores packed with MFP.

How to attach a cores

Memo Wind the TEL cable and Line cable on each core 1 time and then close the core cases to fix them. The cores must be about 80~100mm away from the each connector.

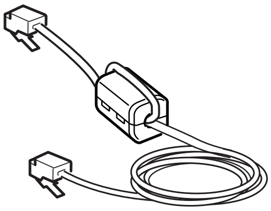


Fig 3.8.4

The places for connecting each cables

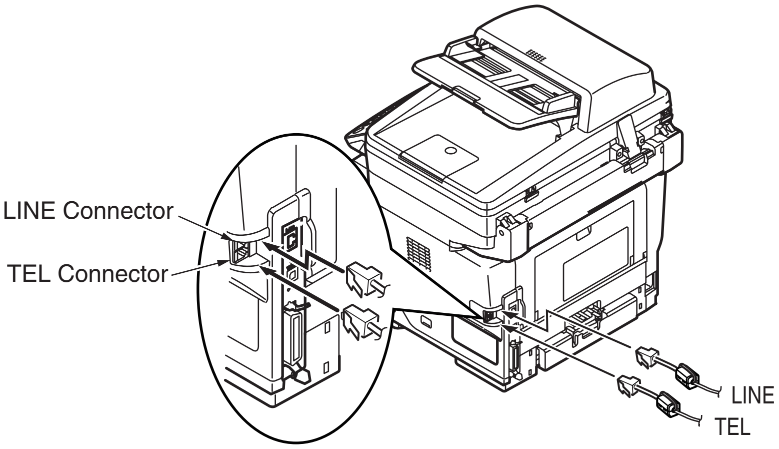


Fig 3.8.5

The state after connecting

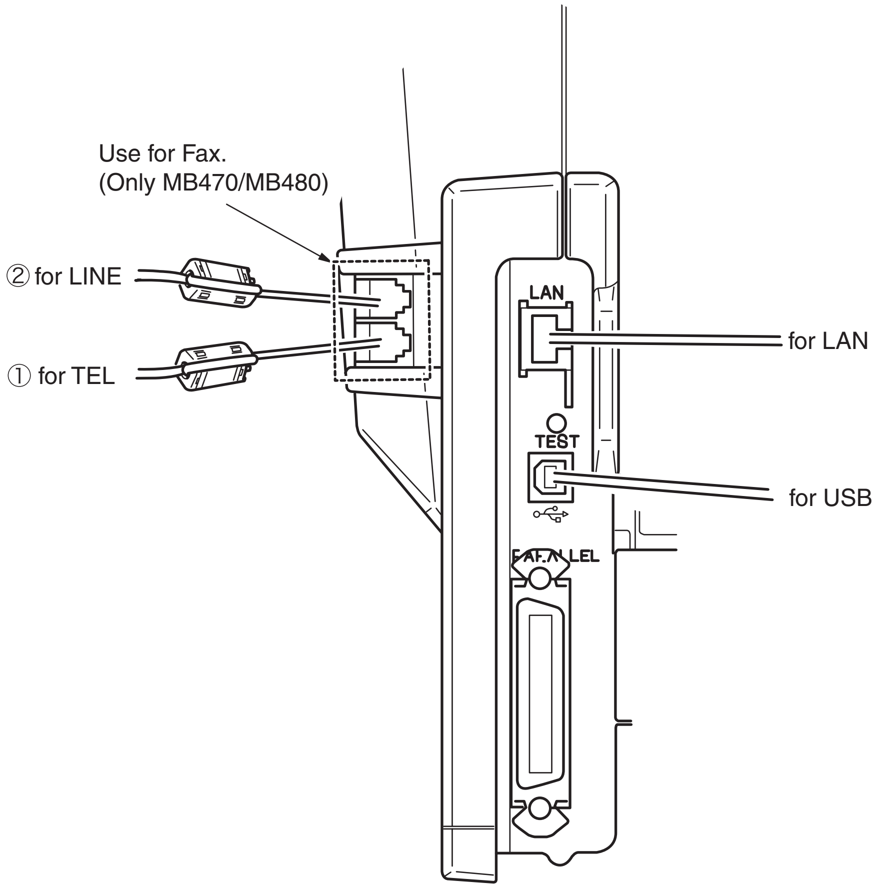

Use for Fax.
(Only MB470/MB480)
② for LINE
① for TEL
LAN
for LAN
TEST
for USB
PARALLEL

Fig 3.8.6

Table 3.8.1

	Cable	Core Name	Part No.	Core shape	Winding count	MB460	MB470	MB480
①	for TEL	SFT-59SN	1051007C0001	Long Type	1	X	○	○
②	for LINE	SFT-59SN	1051007C0001	Long Type	1	X	○	○

※ Do not also connect to switchboard directly or exclusive use line without any conversion equipment.

3.9 Checking of User Paper

Set the medium the user uses, set up media type/weight, conduct menu map/demo print and confirm that the toner does not peel off.

Table 3.9.1

Types	Weight	Setting values of the MFP		Setting*2 for [Media weight] of the printer driver
		Media weight	Media type*1	
Regular paper*3	55kg(64g/m2)	Light	Plain	Light
	55-64kg(64-74g/m2)	Medium Light		Medium Light
	65-75kg(75-87g/m2)	Medium		Medium
	76-89kg(88-104g/m2)	Medium Heavy		Medium Heavy
	90-105kg(105-120g/m2)	Heavy		Heavy
Postcard*4	-	-	-	-
Envelope*4	-	-	-	-
Label paper	-	Heavy	Labels	Labels

[*1] : The set-up of the media type at the time of shipment from the factory is “Plain”.

[*2] : Thickness and type of paper can be set up by the printer driver. When they are set up by the printer driver, the printer driver set-up has priority. When “Automatic Selection” is selected by “Paper Feed Method” of the printer driver or when “Printer Set-up” is selected by “Paper Thickness”, printing is made by the set-up of the MFP.

[*3] : Thickness of paper for both side printing is 55~90kg in weight (64~105g/m^2).

[*4] : Set-up of media weight and media type is not necessary for postcards and envelopes.

4. REPLACEMENT OF PARTS

This section explains the field replacement procedures for parts, assemblies and component units. While those replacement procedures refer to the disassembling of parts, follow the same procedures inversely for reassembling them.
The part numbers (1, 2, etc.) employed in this manual are different from those assigned in the corresponding configuration diagrams of Disassembly for Maintenance (44306601TL) and RSPL (44306601TR/44306621TR/44306641TR).

4.1 Precautions on the replacement of parts

(1) Prior to replacing a part, be sure to disconnect the AC cord and interface cable.

(a) To disconnect the AC cord, always follow the procedure described below:

① Switch the power switch of printer off “O”.
② Disconnect the AC insertion plug of the AC power cord from the AC power source.
③ Disconnect the earth wire from the earth terminal of the AC power source outlet.
④ Disconnect the AC cord and the interface cable with the printer.

⚠Warning	Risk of Electric Shock	⚠

There is a risk of electric shock during replacement of the low voltage power supply.

Use insulating gloves or avoid direct contact with any conducting part of the power supply, and caution should be exercised during replacement.

The capacitor may take one minute to complete discharge after the AC cord is unplugged. Also, there is a possibility that the capacitor doesn’t discharge because of a breakage of the PCB, etc., so remember the possibility of electric shock to avoid electric shock.

(b) To reconnect the printer, always follow the procedure described below:

① Connect the AC cord and the interface cable with the printer.
② Connect the earth wire to the earth terminal of the AC power source outlet.
③ Connect the AC power cord insertion plug to the AC power source outlet.
④ Switch the power switch of printer on “I”.

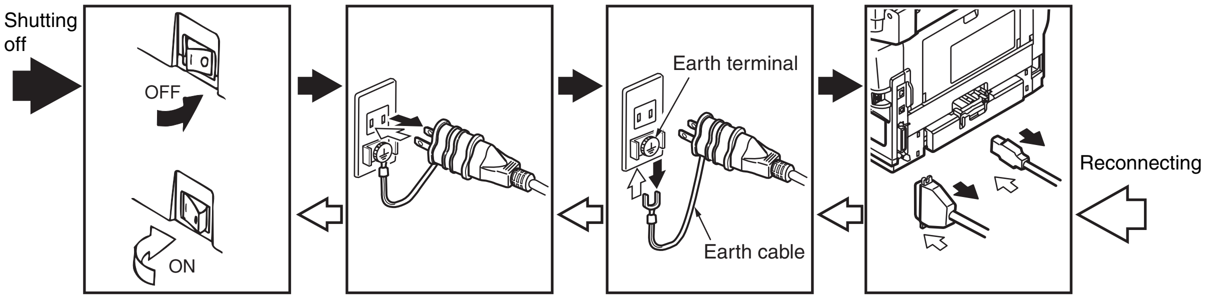


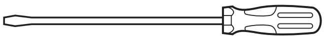
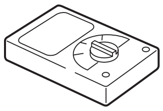
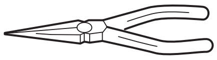
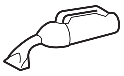
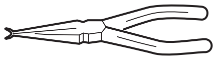
Fig 4.1.1

(2) Do not disassemble the MFP as long as it is operating normally.
(3) Limit disassembly to a necessary minimum. Do not remove other parts than those specified in the part replacement procedure.
(4) Use the designated maintenance tools.
(5) Conduct disassembly by following the specified sequential order. Failure to observe this order could damage the parts.
(6) Screws, collars and other small parts should be attached provisionally to their original positions, since they are liable to be lost.
(7) When handling a microprocessor, ROM, RAM and other ICs and circuit boards, do not wear gloves that tend to generate static electricity.
(8) Printed-circuit boards should not be placed directly on an equipment or floor.

[Maintenance Tools]

Table 4.1.1 indicates the tools necessary to replace printed-circuit boards and component units.

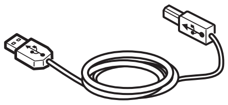
Table 4.1.1

No.	Service Tools		Q' ty	Place of use	Remarks
1		No. 2-200 Philips screwdriver, Magnetized	1	3~5 mm screws	
2		No. 3-100 screwdriver	1		
3		No. 5-200 screwdriver	1		
4		Digital multimeter	1		
5		Pliers	1		
6		Handy cleaner	1		Refer to the following note.
7		E-ring pliers	1		
8		Tweezers	1		Curved-tip type

Note: Use a vacuum cleaner dealing with toner. Using a common vacuum cleaner may cause fire.

Table 4.1.2 indicates the tools necessary for using maintenance utilities.

Table 4.1.2

No.	Service Tools		Q' ty	Place of use	Remarks
1		Laptop computer [Must have maintenance utilities installed]	1		
2		USB cable	1		

4.2 Parts layout

This section explains the main parts layout of the equipment.

MB460

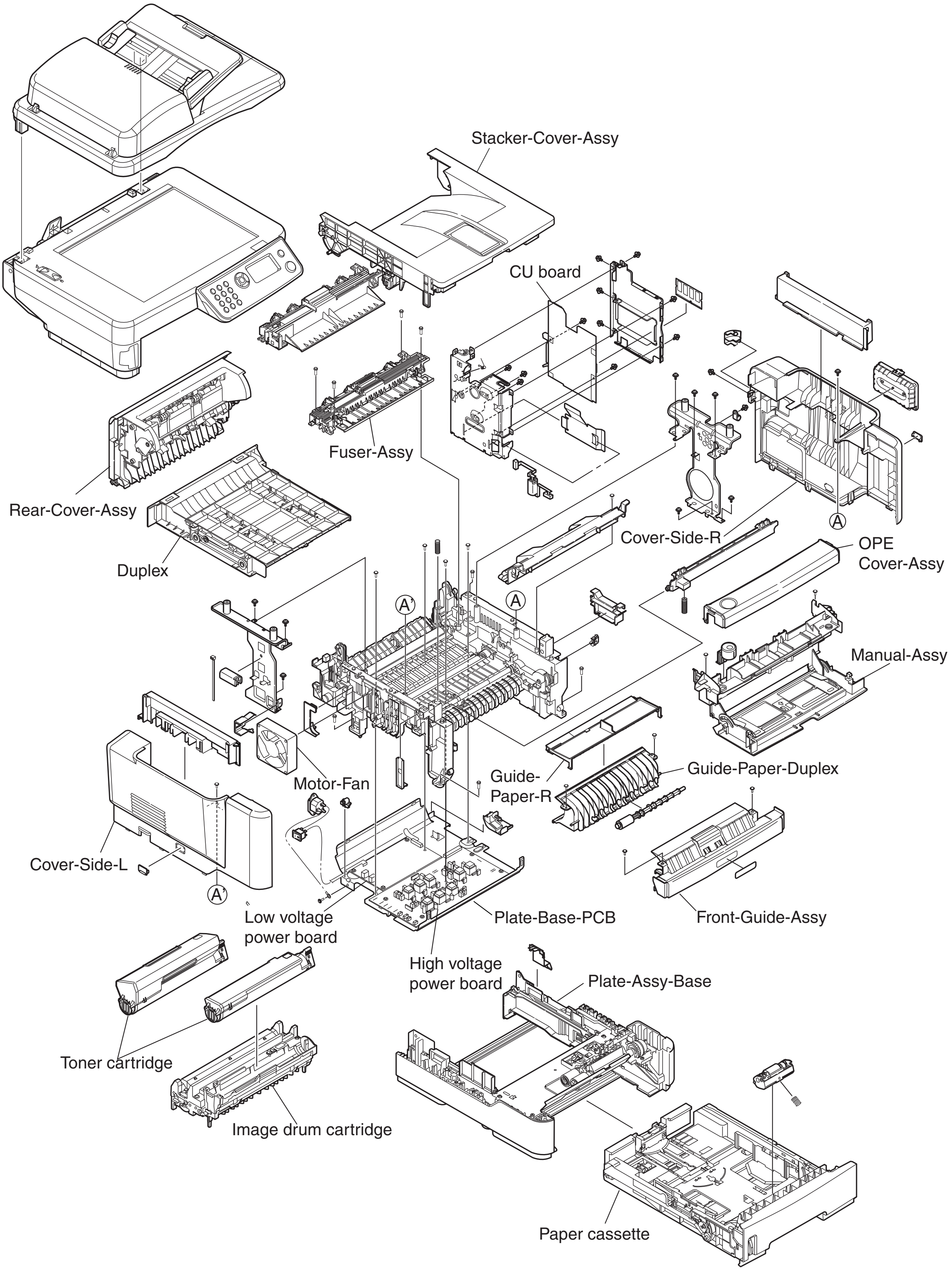

Stacker-Cover-Assy
CU board
Fuser-Assy
Rear-Cover-Assy
Duplex
Cover-Side-R
Ⓐ
OPE Cover-Assy
Ⓐ'
Ⓐ
Manual-Assy
Motor-Fan
Guide-Paper-R
Guide-Paper-Duplex
Cover-Side-L
Ⓐ'
Low voltage power board
Plate-Base-PCB
Front-Guide-Assy
High voltage power board
Plate-Assy-Base
Toner cartridge
Image drum cartridge
Paper cassette

Fig 4.2.1

MB470

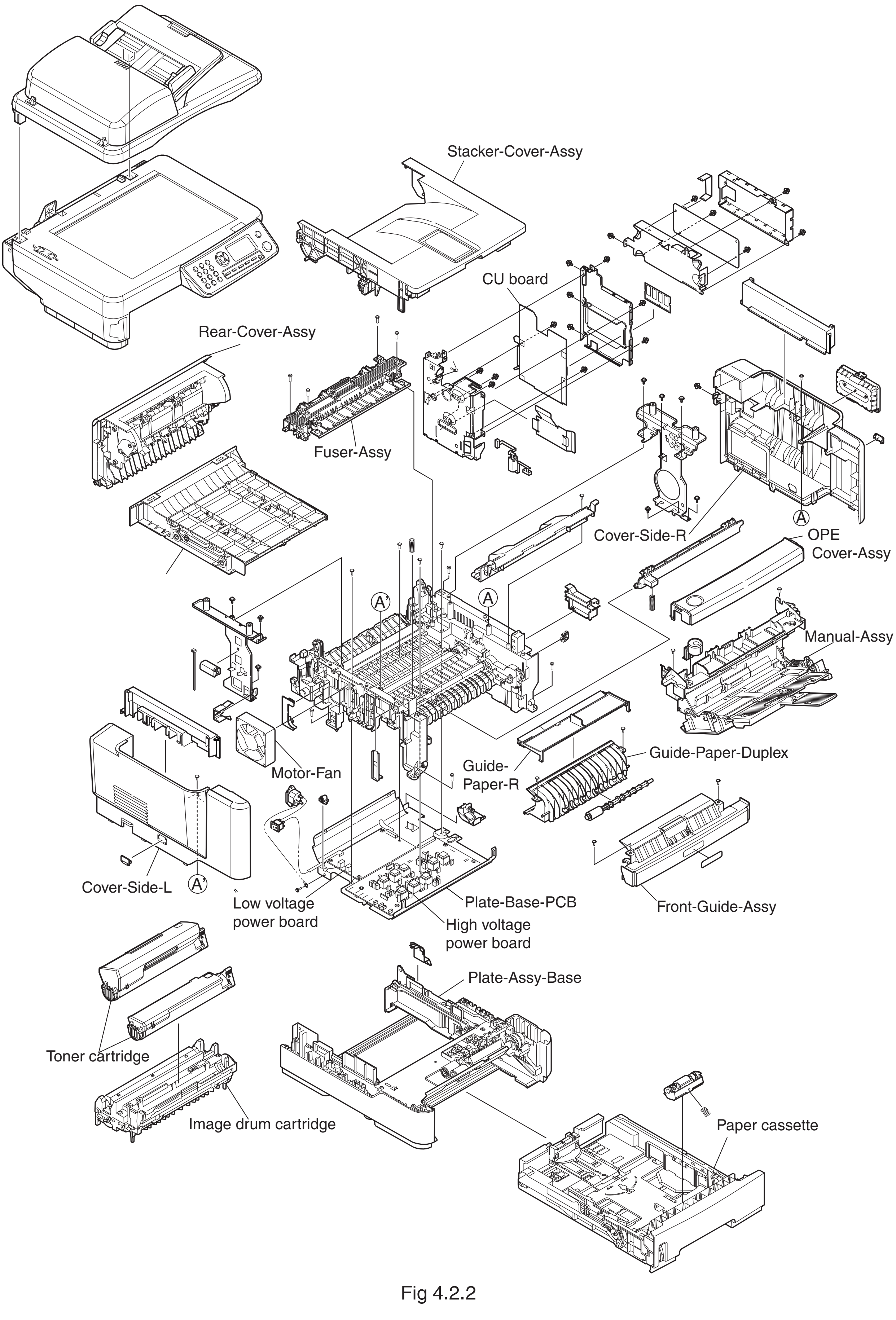

Stacker-Cover-Assy
CU board
Rear-Cover-Assy
Fuser-Assy
Cover-Side-R
OPE
Cover-Assy
A
A'
Manual-Assy
Motor-Fan
Guide-
Paper-R
Guide-Paper-Duplex
Cover-Side-L
Low voltage
power board
Plate-Base-PCB
High voltage
power board
Front-Guide-Assy
Plate-Assy-Base
Toner cartridge
Image drum cartridge
Paper cassette

Fig 4.2.2

MB480

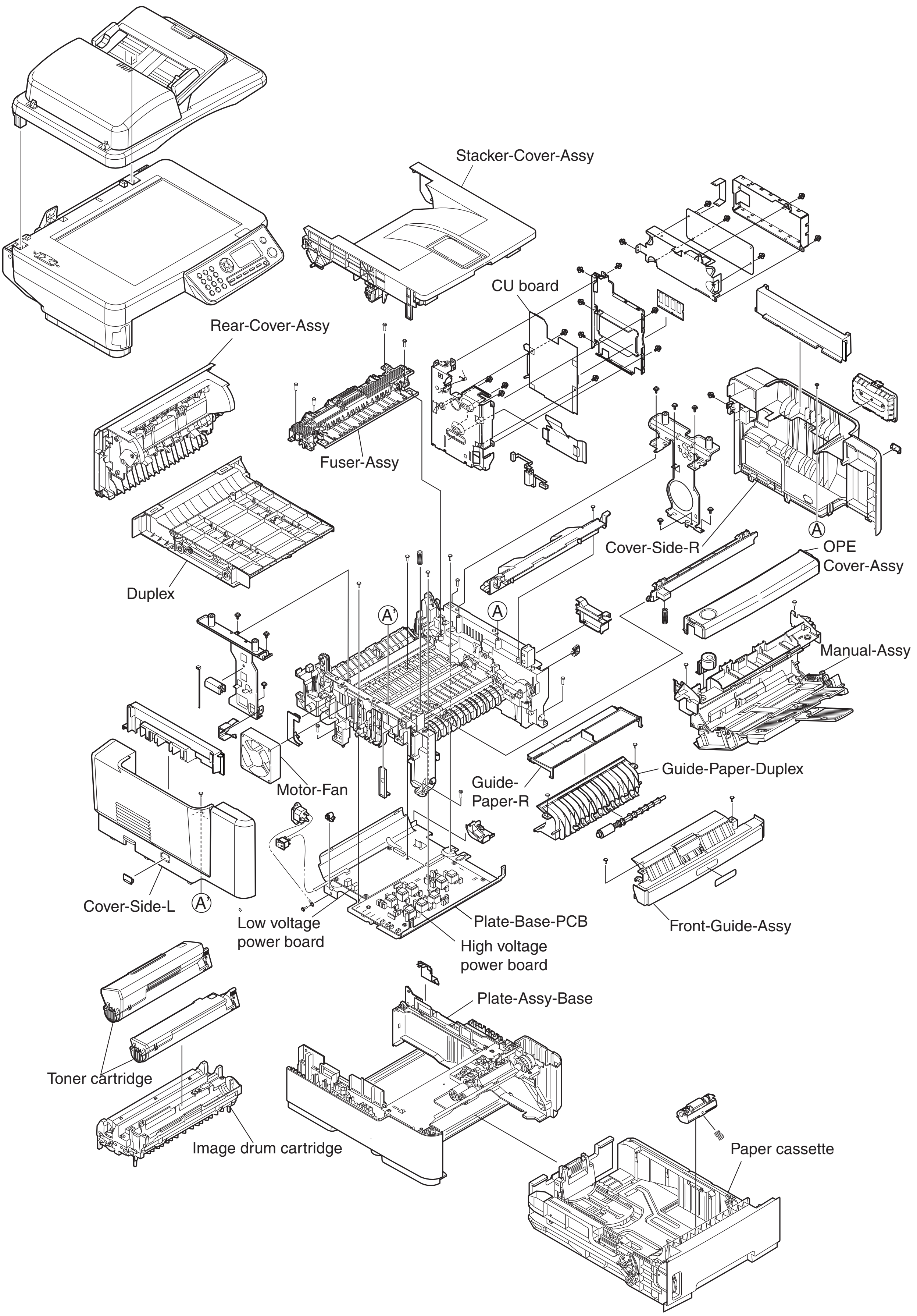

Stacker-Cover-Assy
CU board
Rear-Cover-Assy
Fuser-Assy
Duplex
Cover-Side-R
OPE
Cover-Assy
Ⓐ
Ⓐ'
Manual-Assy
Guide-Paper-Duplex
Motor-Fan
Guide-
Paper-R
Cover-Side-L
Low voltage
power board
Plate-Base-PCB
High voltage
power board
Front-Guide-Assy
Plate-Assy-Base
Toner cartridge
Image drum cartridge
Paper cassette

Fig 4.2.3

[Base unit]

MB460/MB470

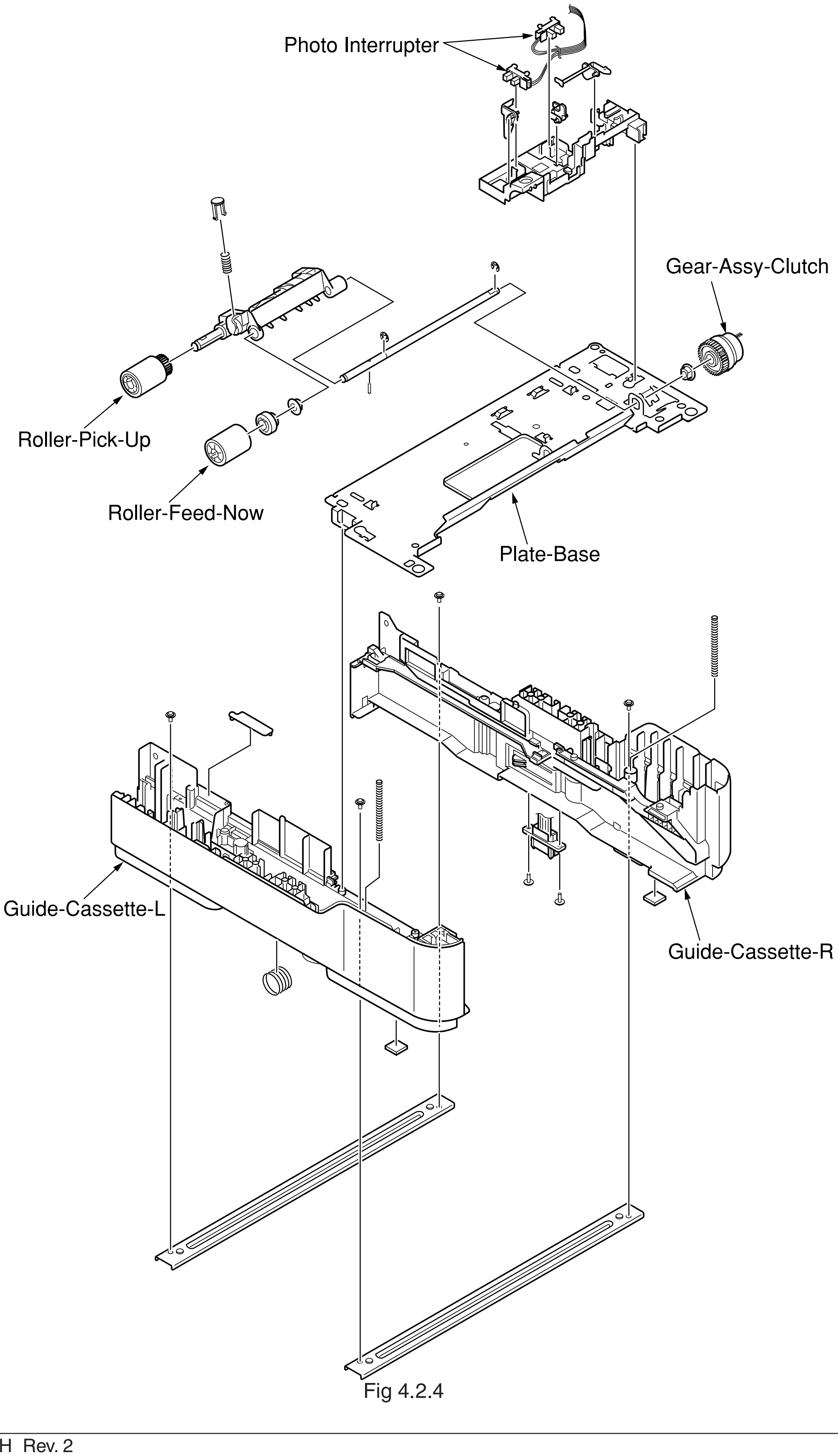


Photo Interrupter
Gear-Assy-Clutch
Roller-Pick-Up
Roller-Feed-Now
Plate-Base
Guide-Cassette-L
Guide-Cassette-R

Fig 4.2.4

[Base unit]

MB480

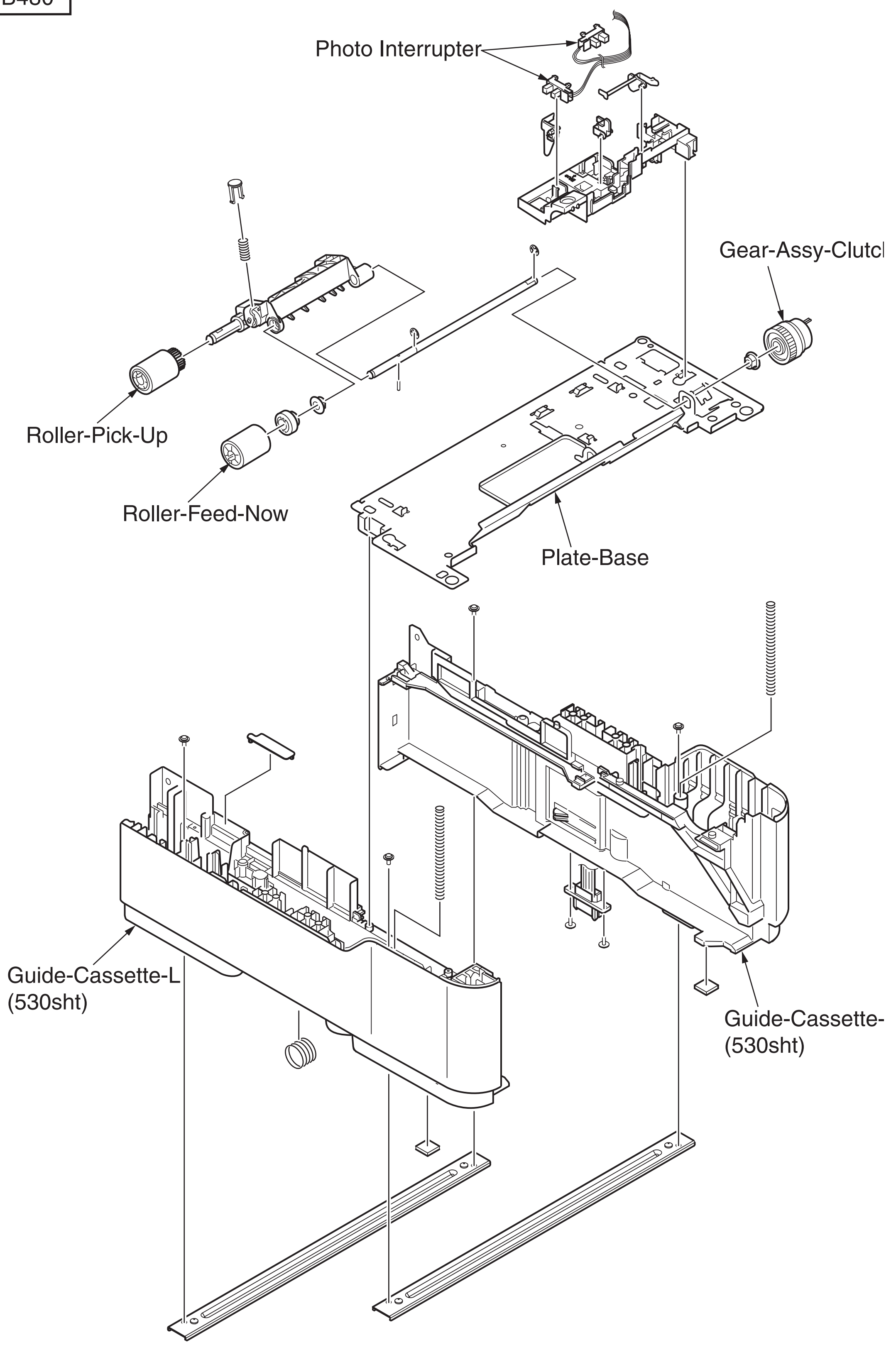


Photo Interrupter
Gear-Assy-Clutcl
Roller-Pick-Up
Roller-Feed-Now
Plate-Base
Guide-Cassette-L
(530sht)
Guide-Cassette-
(530sht)

Fig 4.2.5

4.3 Parts replacement method

This section explains the replacement method of the parts and assemblies that are shown in the following disassembling diagram.
The explaining diagram of parts replacement procedure is MB470.

Replace part after performing the following operation.

(1) Unplug the AC power cord from the main unit inlet by the disconnected status of power switch.

(2) Unplug the interface cable from the main unit.

4.3.1 Detachment methods of the scanner and printer

4.3.1.1 Cover-Side-R

(1) Lift the scanner.
(2) Open the Rear-Cover-Assy.
(3) Open the Stacker-Cover-Assy.
(4) Take out the image drum cartridge.
(5) Remove the screw (Black) ① and the screw (Silver) ②. Remove the Cover-Side-R ③.
(6) Installing is performed by the inverse procedure with removing.

(Note on removing / installing)

1. Beware of not to touch the DC motor inattentively (Do not rotate motor).

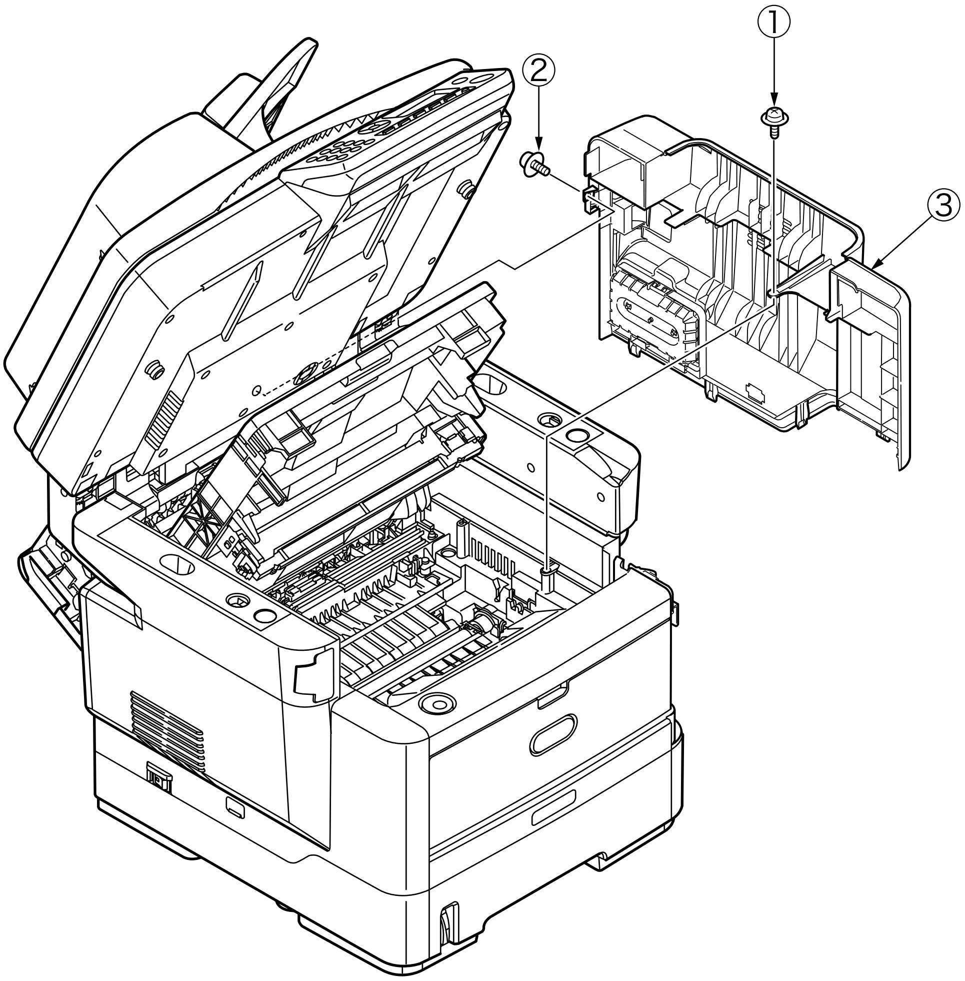


Fig 4.3.1

4.3.1.2 Cover-Side-L

(1) Lift the scanner.
(2) Open the Rear-Cover-Assy.
(3) Open the Stacker-Cover-Assy.
(4) Take out the image drum cartridge.
(5) Remove the screw (Black) ①. Remove the Cover-Side-L ②.
(6) Installing is performed by the inverse procedure with removing.

Note! Attach the Label Motor-Fan on the outside that is obviously to be seen.

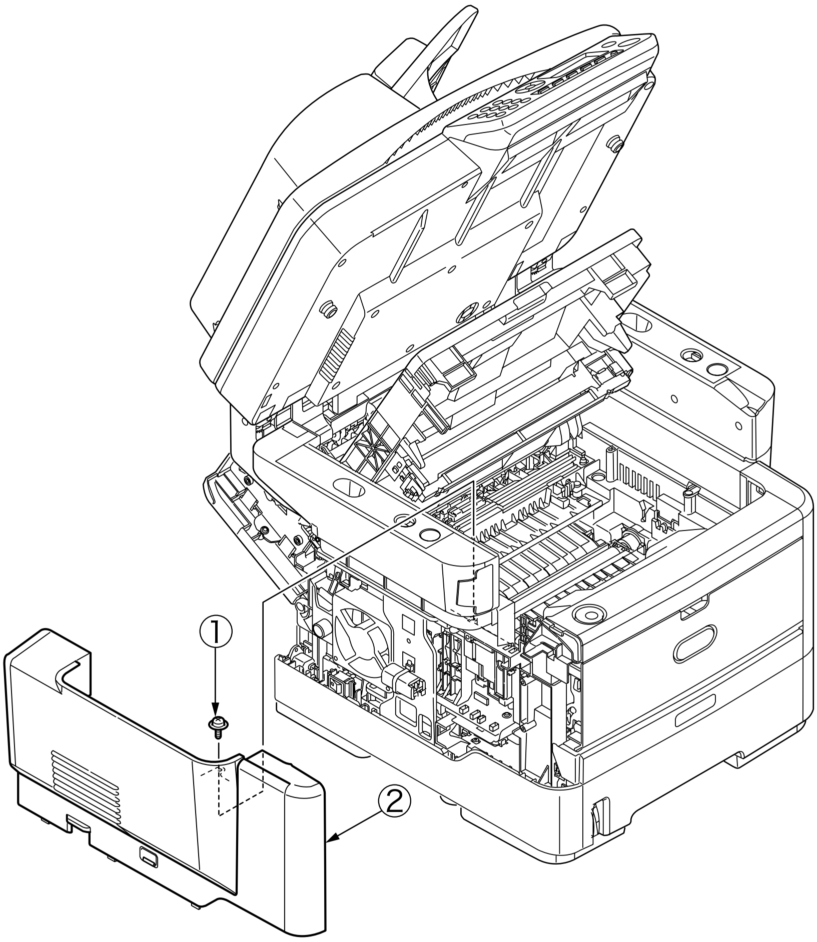


Fig 4.3.2

4.3.1.3 FAX Board (In case of MB470/480)

(1) Remove the Cover-Side-R . (Refer to 4.3.1.1)

(2) Remove the two screws(silver) ①. Remove the Plate-Shield-Cover-FAX ②.

(3) Remove the cable connector ③ from the Board-FAX ④.

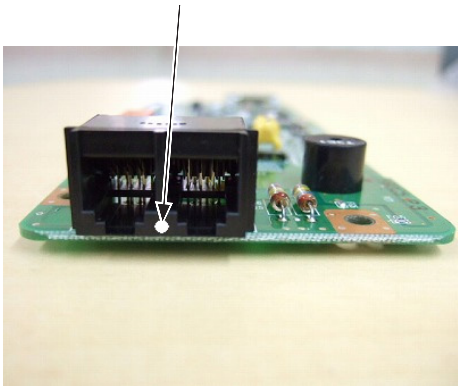
(4) Remove the three screws(silver) ⑤ .

(5) Remove the Board-FAX ④.

(Note on removing / installing)

1. Beware of not to touch the DC motor inattentively (Do not rotate motor).

Note : When replacing the Board-FAX, make sure that there is a marking on the connector.



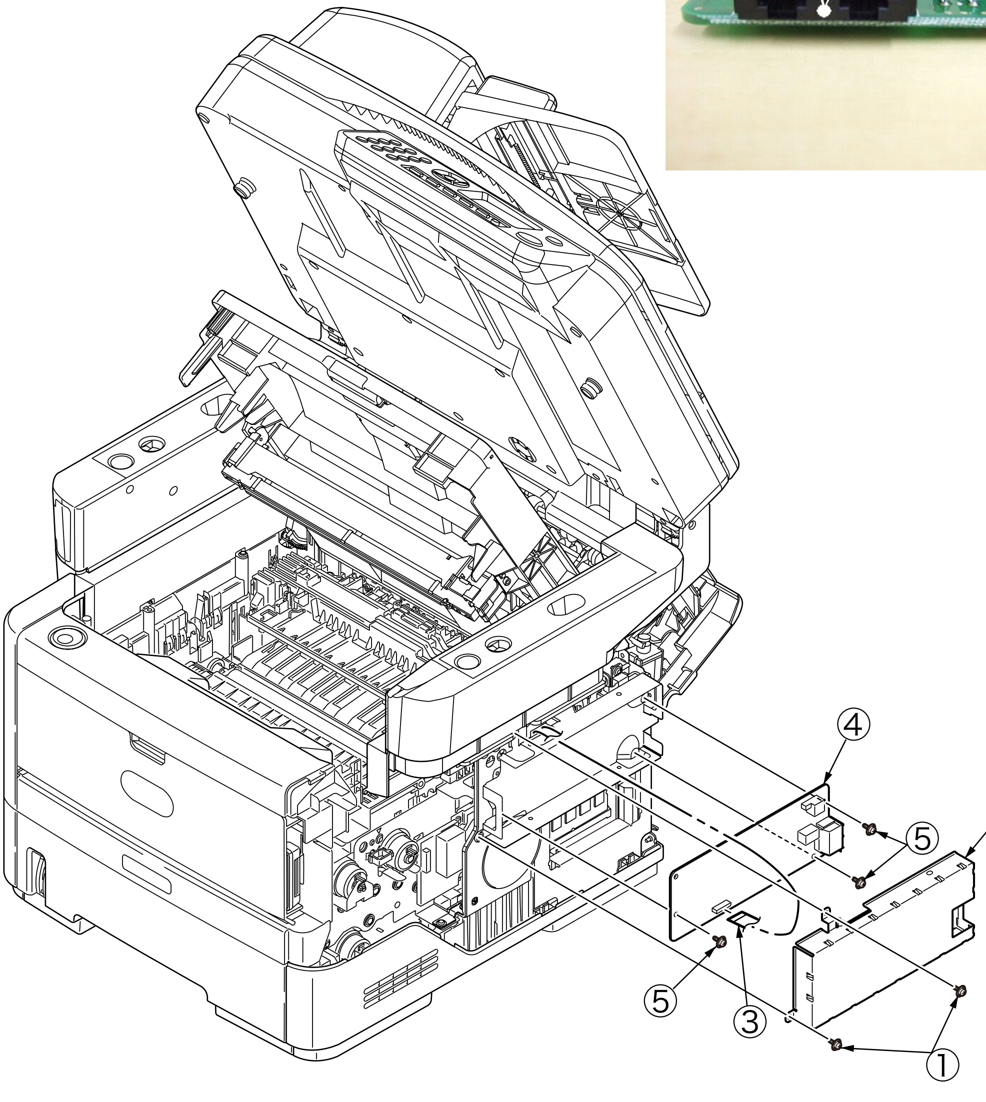


Fig 4.3.3

4.3.1.4 Detachment methods of the scanner and printer

(1) Remove the Cover-Side-R and the Cover-Side-L. (Refer to 4.3.1.1/ 4.3.1.2)

(2) Remove the Plate-Shield-Cover-Fax and cable. (Refer to 4.3.1.3) (In case of MB470/MB480)

(3) Remove the screw(silver) ①. Remove the Plate-Shield-Base-FAX(with Board-FAX) ②. (In case of MB470/MB480)

(4) Remove the screw(silver) ③. Remove the Cable-clamp ④. (In case of MB460)

(5) Remove the six screws(silver) ⑤. Remove the Plate-Shield-Cover-CU ⑥.

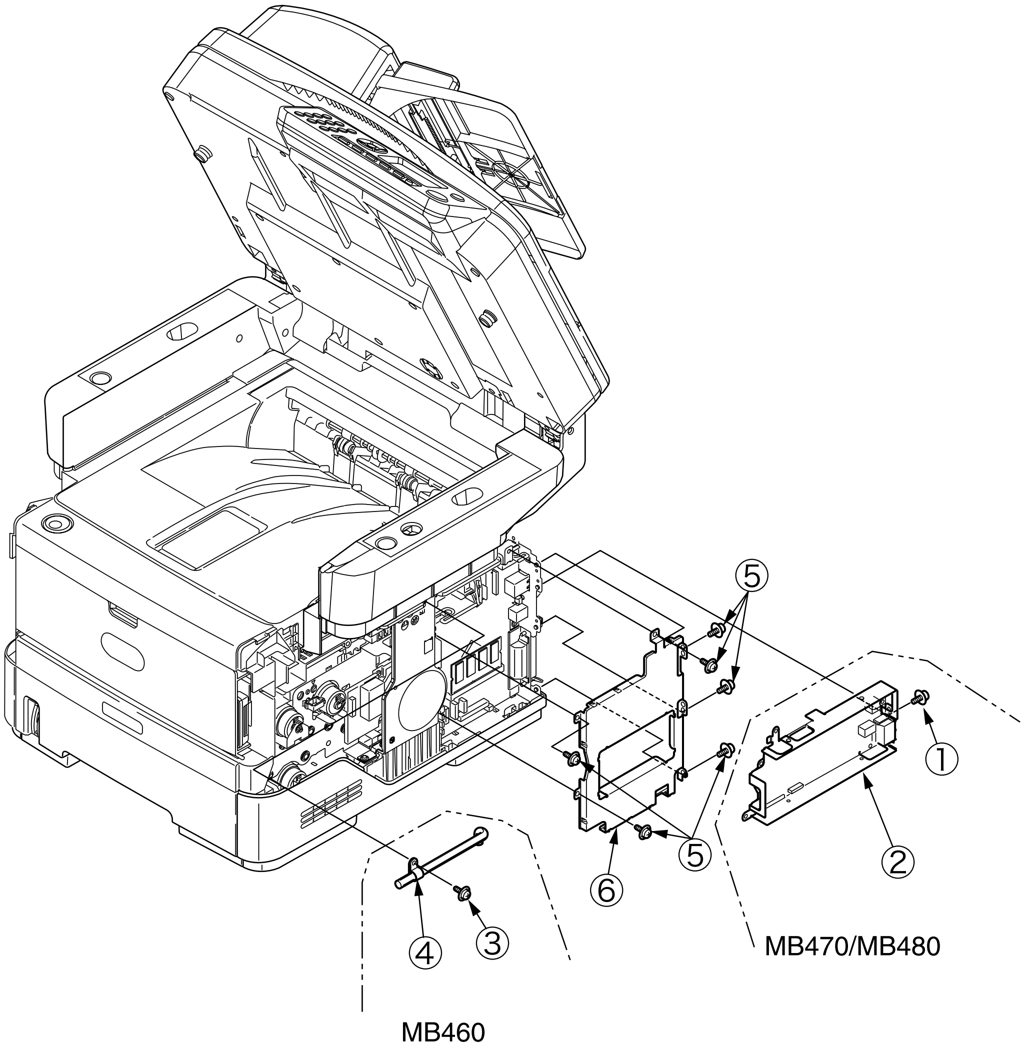


Fig 4.3.4

(6) Remove the Scanner-cable connector ⑦ from the Board-CU.

(7) Remove the four screws(silver) ⑧.(hold the front side of the stay on each side of the printer so as not to allow the scanner to tilt back).

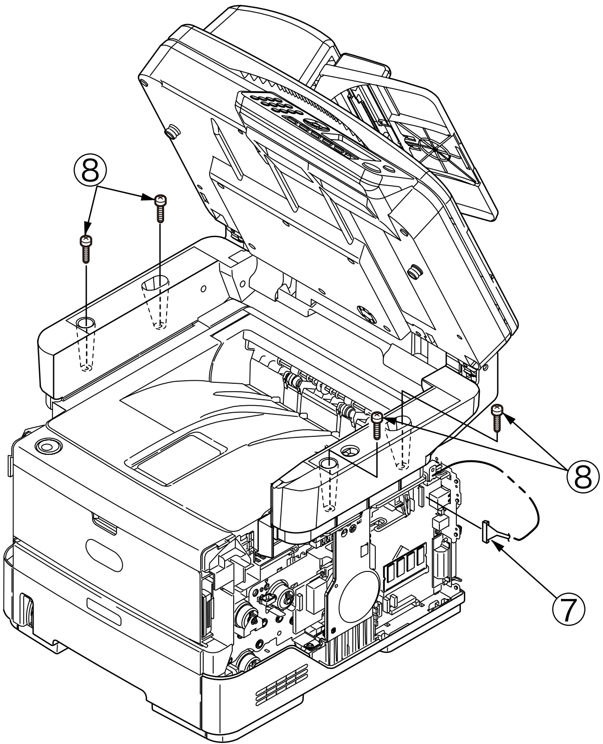


Fig 4.3.5

(8) Put the scanner back in its original horizontal position.

(9) By holding the scanner by the right and left stays and vertically lifting it up, separate the scanner from the printer.

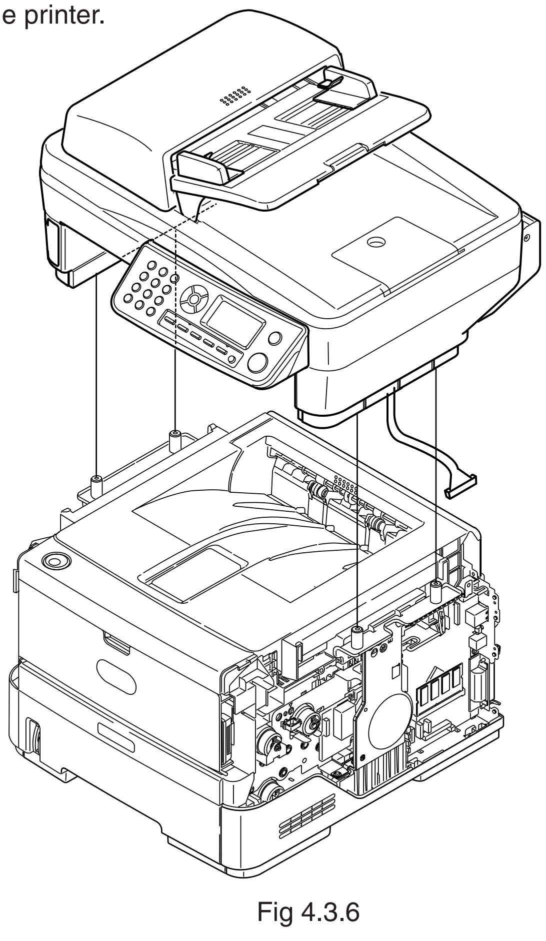


Fig 4.3.6

4.3.2 Scanner

4.3.2.1 Detachment of the paper tray

(1) Gently open the ADF top cover.

(2) Turn the lever in the direction of the arrow to put the frame assembly and the paper tray upright.

(3) Remove the two screws(black) ②, and then the paper tray ①.

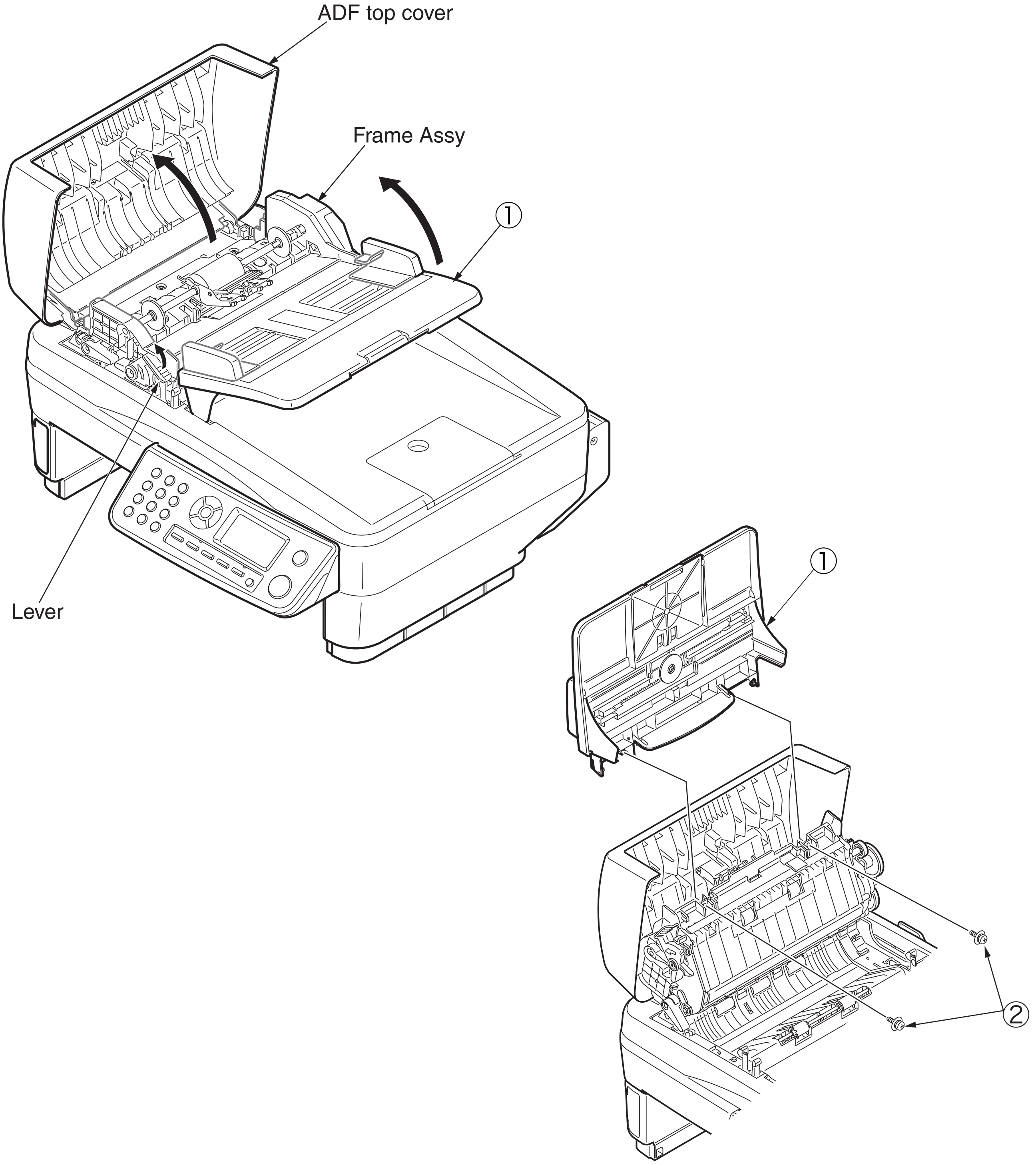

ADF top cover
Frame Assy
①
Lever
①
②

Fig 4.3.7

4.3.2.2 Detachment of Pad

(1) Open the ADF top cover. (Refer to 4.3.2.1)

(2) As in the figure under, insert the tip of the small minus driver softly to the dent of the pad case. By this operation, the inner hooks of pad is removed in direction of the arrow (A).

Note: In order to cause damage to the surface of roller, please take attention to use the tool when this operation.

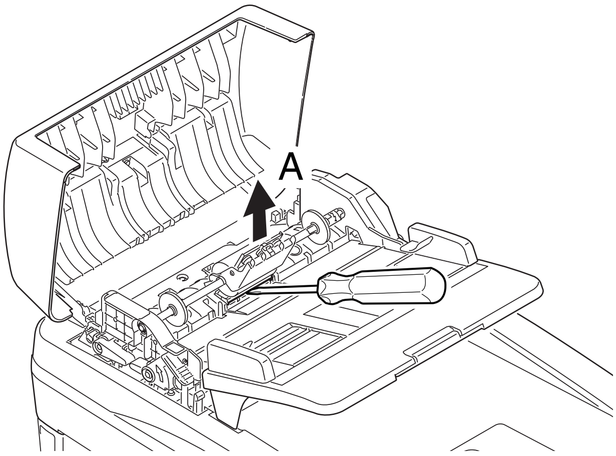


Fig 4.3.8

(3) Push another side of pad forward in direction of the arrow (B) with the tool inserted.

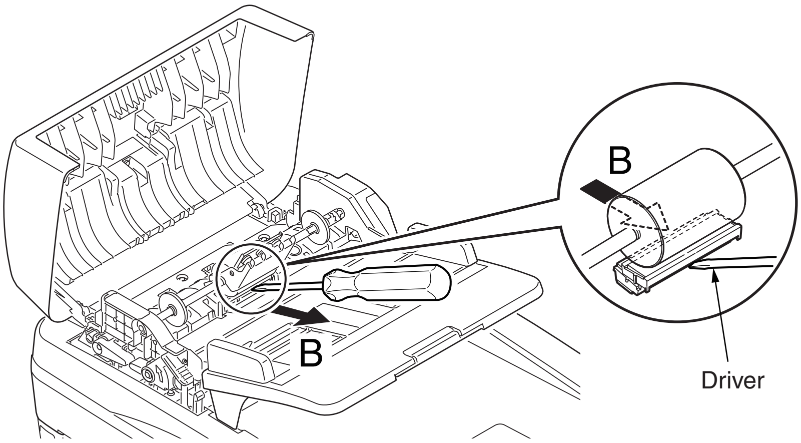


Fig 4.3.9

(4) Exchange to the new pad in the direction of the arrow.

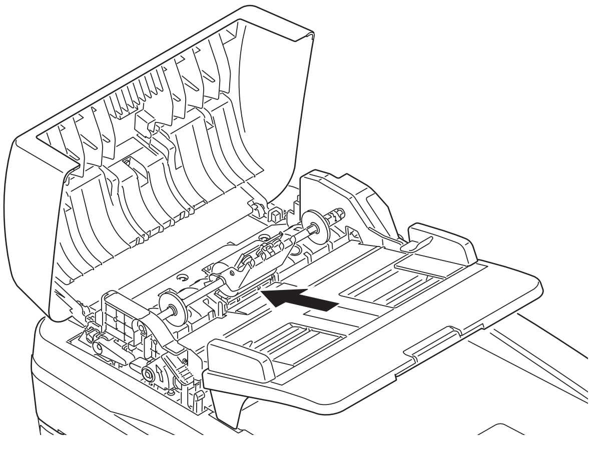


Fig 4.3.10

4.3.2.3 Removing ADF PCBA

(1) Gently open the ADF top cover.

(2) Remove the two screws(black) ① to remove the cover-gear ②.

(3) Remove the two screws(black) ③.

(4) Turn the lever in the direction of the arrow to put the frame Assembly ④ and the paper tray ⑤ upright.

(5) Remove the two screws(black) ⑥.

(6) Restore the frame Assembly ④ and the paper tray ⑤ in their original positions.

(7) Release the frame Assembly ④ from the hook near its supporting point on each side of the scanner to remove the Assembly and the paper tray ⑤.

(8) Remove the three screws(black) ⑦ to remove the ground plate ⑧, ⑨ and ⑩.

(9) Unplug all the connectors and remove the ADF PCBA ⑪.

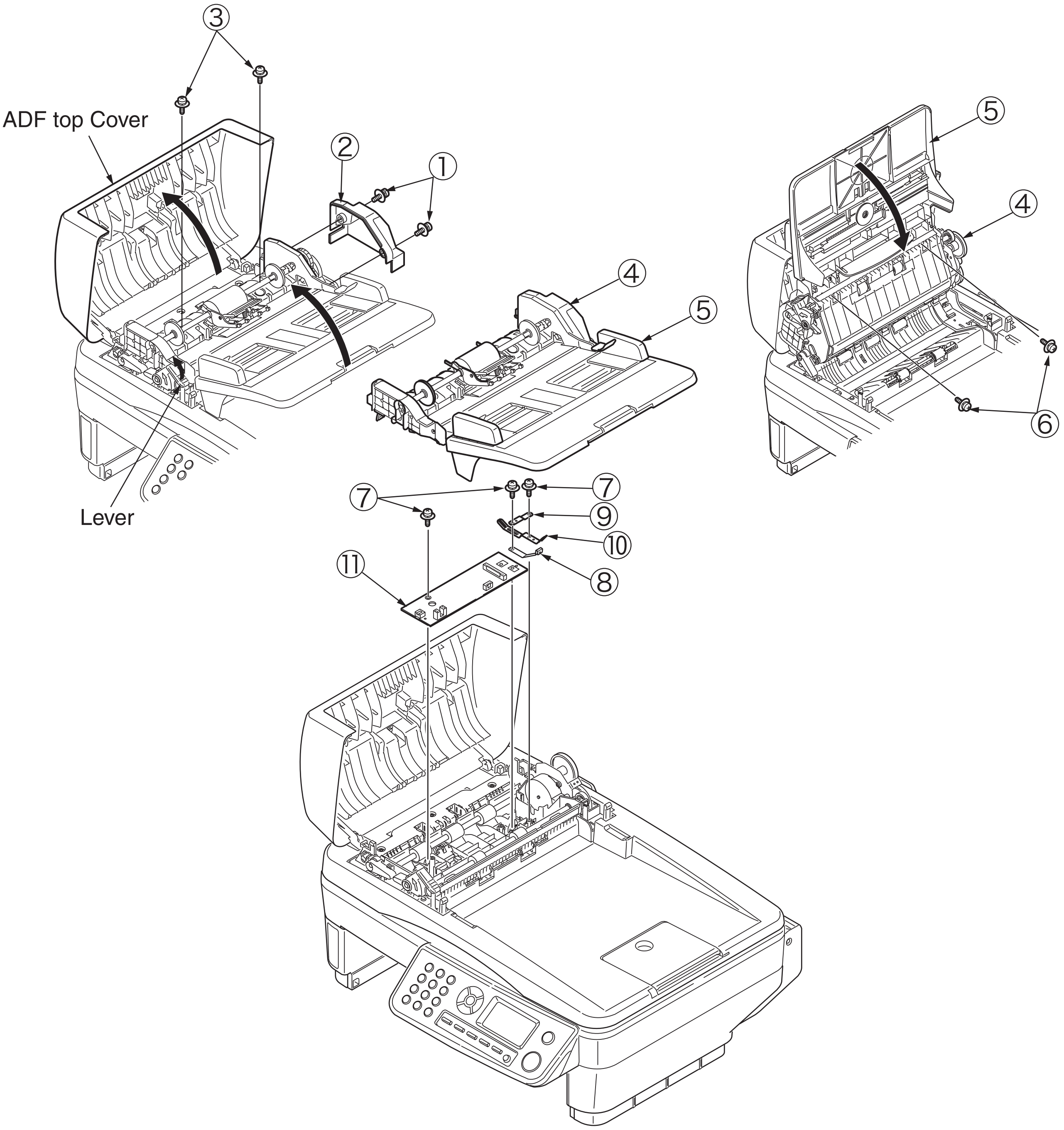


Fig 4.3.11

4.3.2.4 Removing operation panel

(1) By putting nails of each hand in the space at the portion of the fit between the operation panel Assembly and the flatbed on the side of the hand, disengage from the scanner the four upper hooks on the operation panel Assembly in direction of the arrow (A).
(2) Pull the FFC cable straight out of the connector on the back of the operation panel.

Note: Be careful not to remove or insert the FFC cable at an angle from the connector on the back of the operation panel Assembly their terminals are damaged.

Removing operation panel PCBA

(1) Pull the FFC cable out of the LCD straight in the direction of the arrow.
(2) Remove the two screws(black) ①. Remove the Panel-Cover-Frame ②.
(3) Remove the three screws (black) ③.Remove the operation panel PCBA ④.

Note: Removing or inserting the FFC cable at an angle from the connector on the back of the operation panel Assembly damages their terminals.

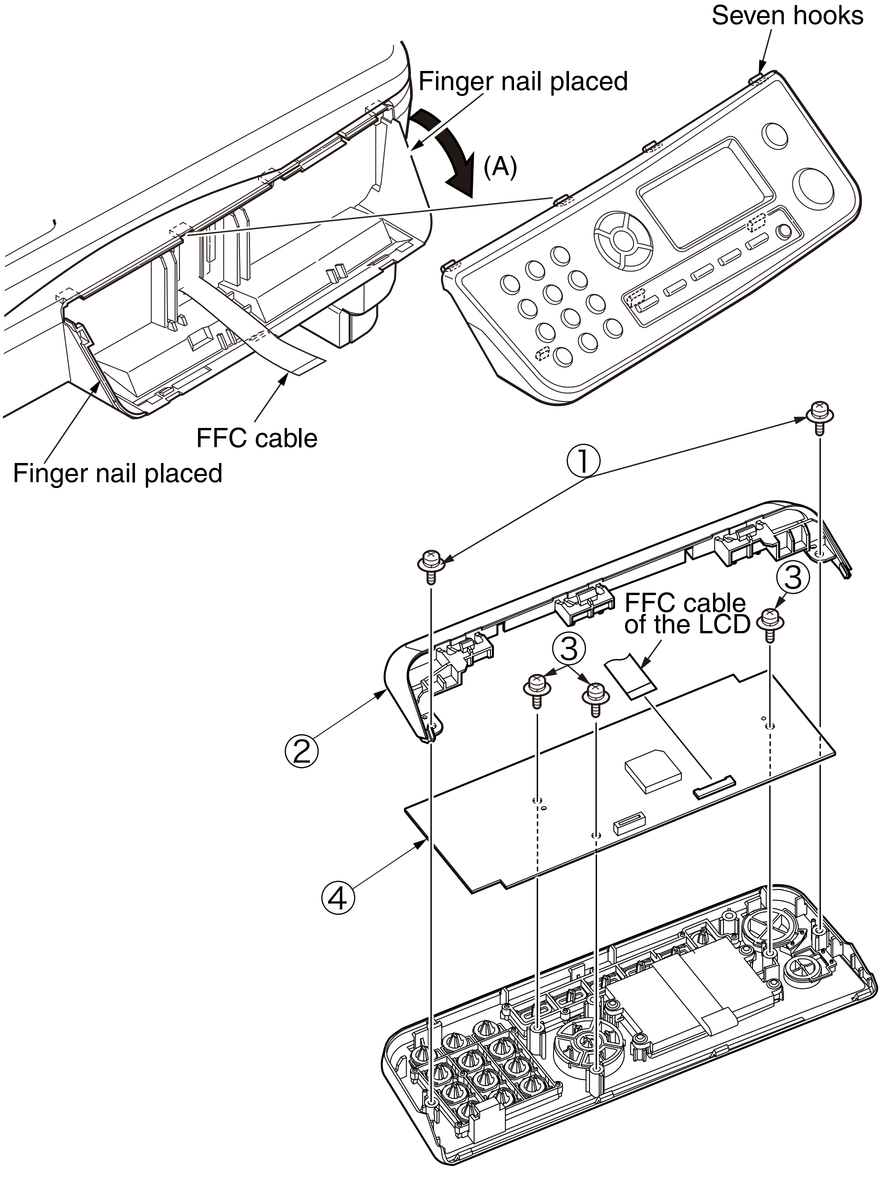


Fig 4.3.12

4.3.2.5 Removing the MPCBA

(1) Turn the scanner unit upside down.

(2) Pull up the stays L and R at the same time until they stop.

(3) Remove the six screws (black) ① and remove the MPCBA-cover ②.

(4) Remove the shield-USB ⑥ by turning it in the direction of the arrow.

(5) Remove the four screws (black, with washers) ③ and remove the top shield Assembly ④.

(6) Disconnect all the connectors and remove the MPCBA board ⑤.

Note: Be sure to slowly move the both stays L and R at the same time. If moved separately, they may be broken.

To reassemble shield metal plates, position the shield metal plates in a manner so that every projection of each of the shield metal plates contacts the outside surface of the mating part. (See the illustration below.)

Paying attention to the fixing position of the core. (See the photo at the bottom of the next page.)

Hook the bent end of the shield-USB ⑥ into the top shield Assembly ④ and turn it in the direction of the arrow to reassemble it. (See the photo at the top left of the next page.)

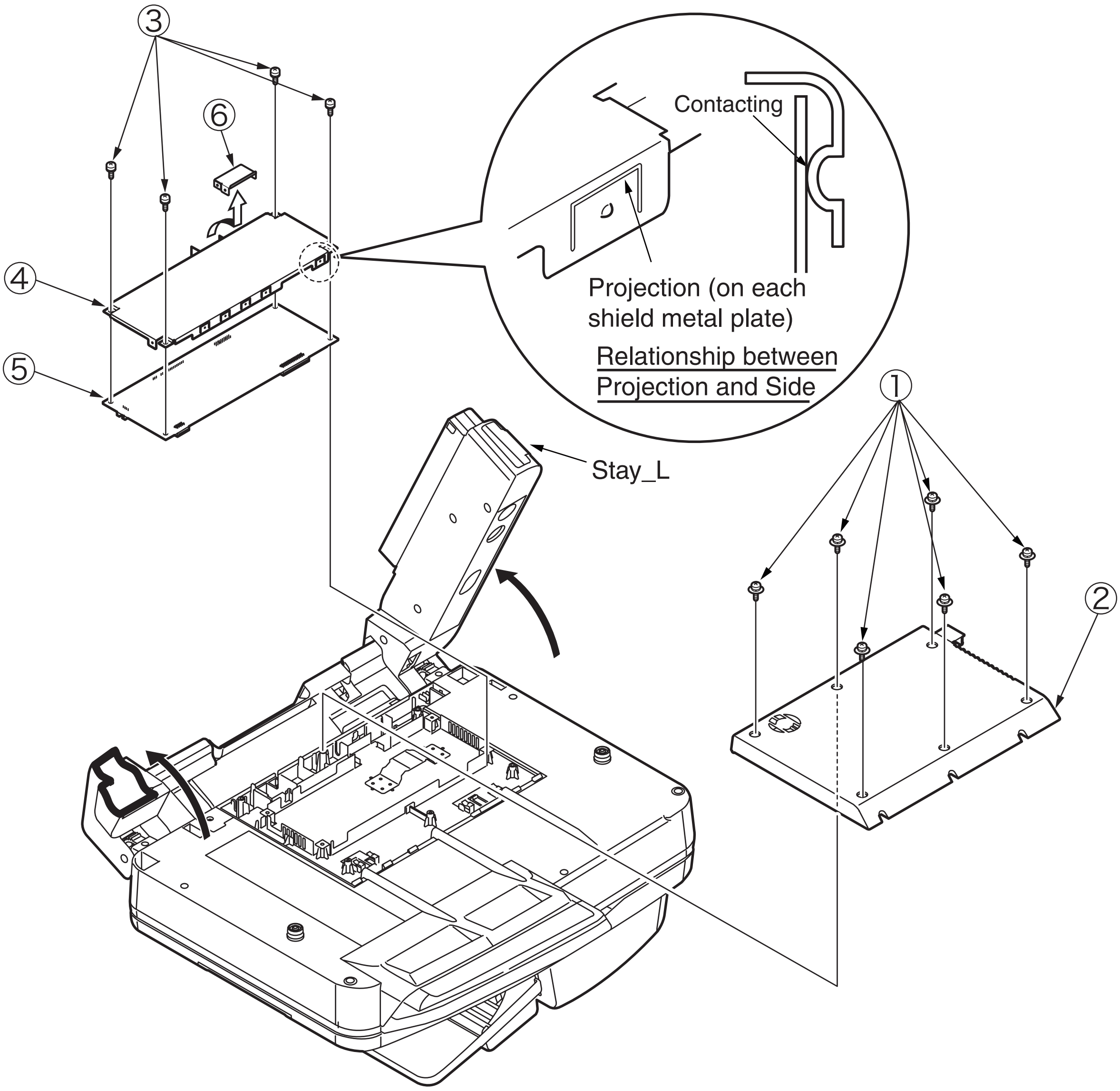
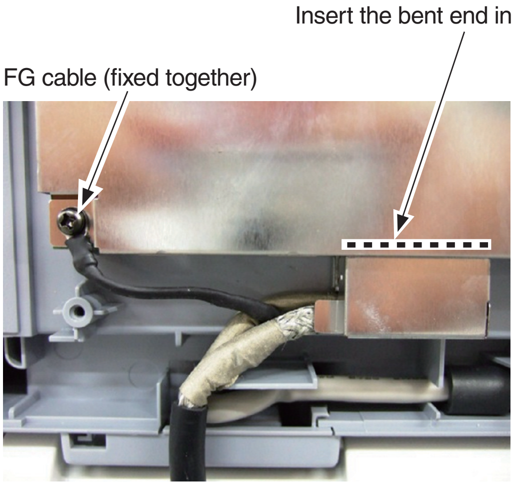
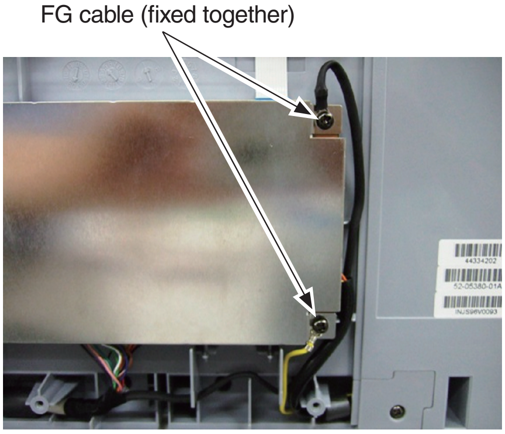

③
⑥
④
⑤
Contacting
Projection (on each shield metal plate)
Relationship between Projection and Side
①
Stay_L
②

Fig 4.3.13


Insert the bent end into the square
FG cable (fixed together)

Shield-USB ⑥ &FG cable

Fig 4.3.14


FG cable (fixed together)

Two FG cables

Fig 4.3.15

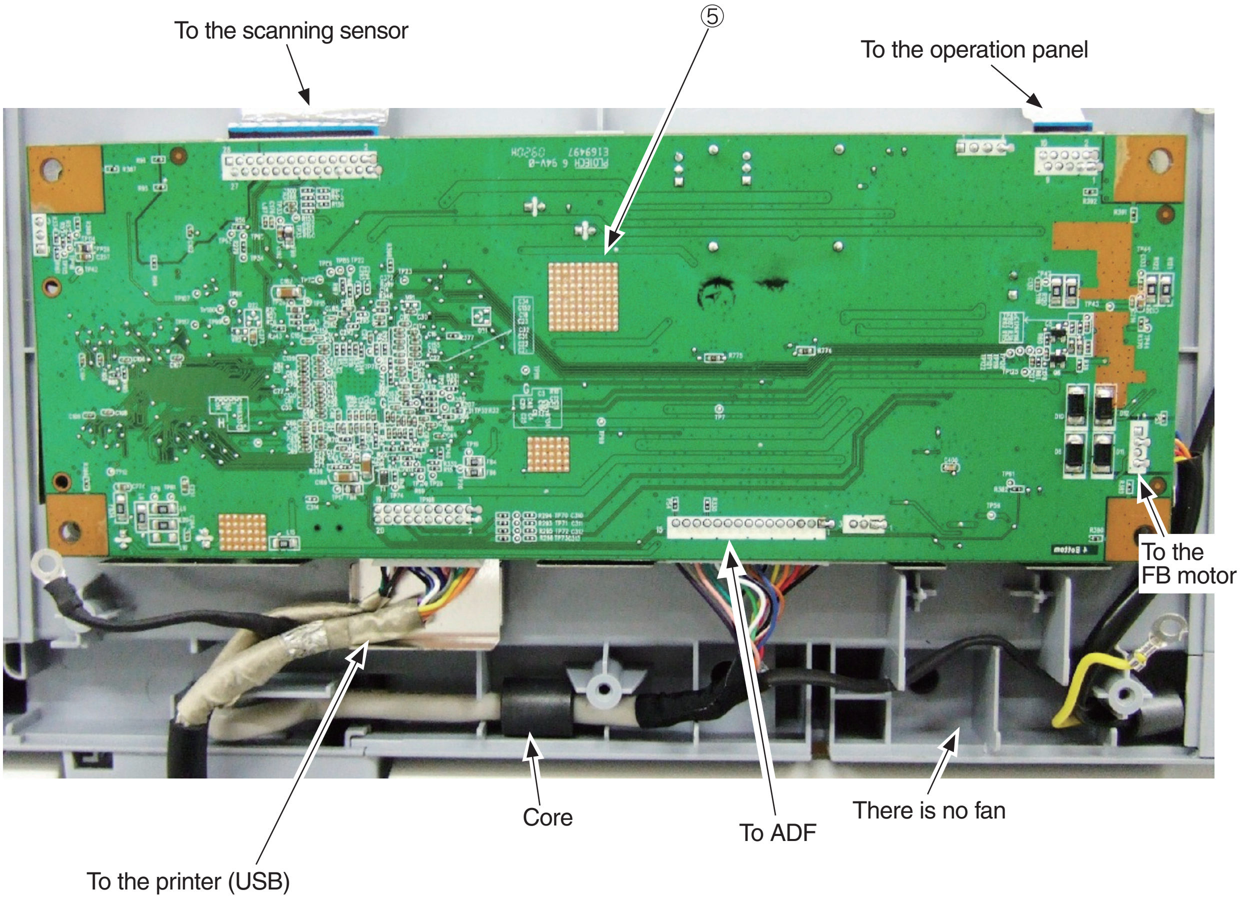

To the scanning sensor
⑤
To the operation panel
To the FB motor
Core
To ADF
There is no fan
To the printer (USB)

Fig 4.3.16

4.3.2.6 Removing ADF Assembly

(1) Remove the two screws(black) ① to remove the base stopper ② upward at an angle.

Note: Unlike the other screws used in the printer, the screws ① are long.

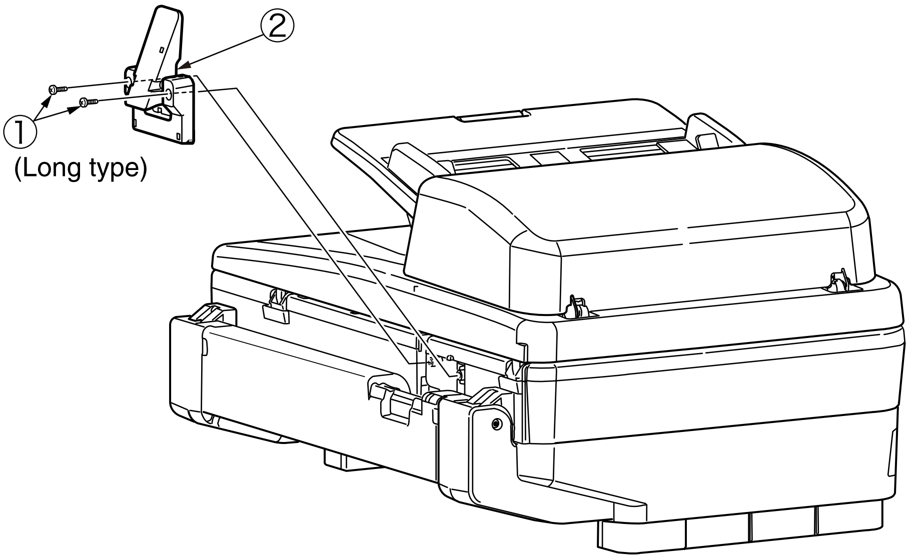


Fig 4.3.17

(2) Reverse the scanner and put the stays L and R upright.

(3) Remove the six screws(black) ③ and then the MPCBA cover ④.

(4) Remove the ADF connector.

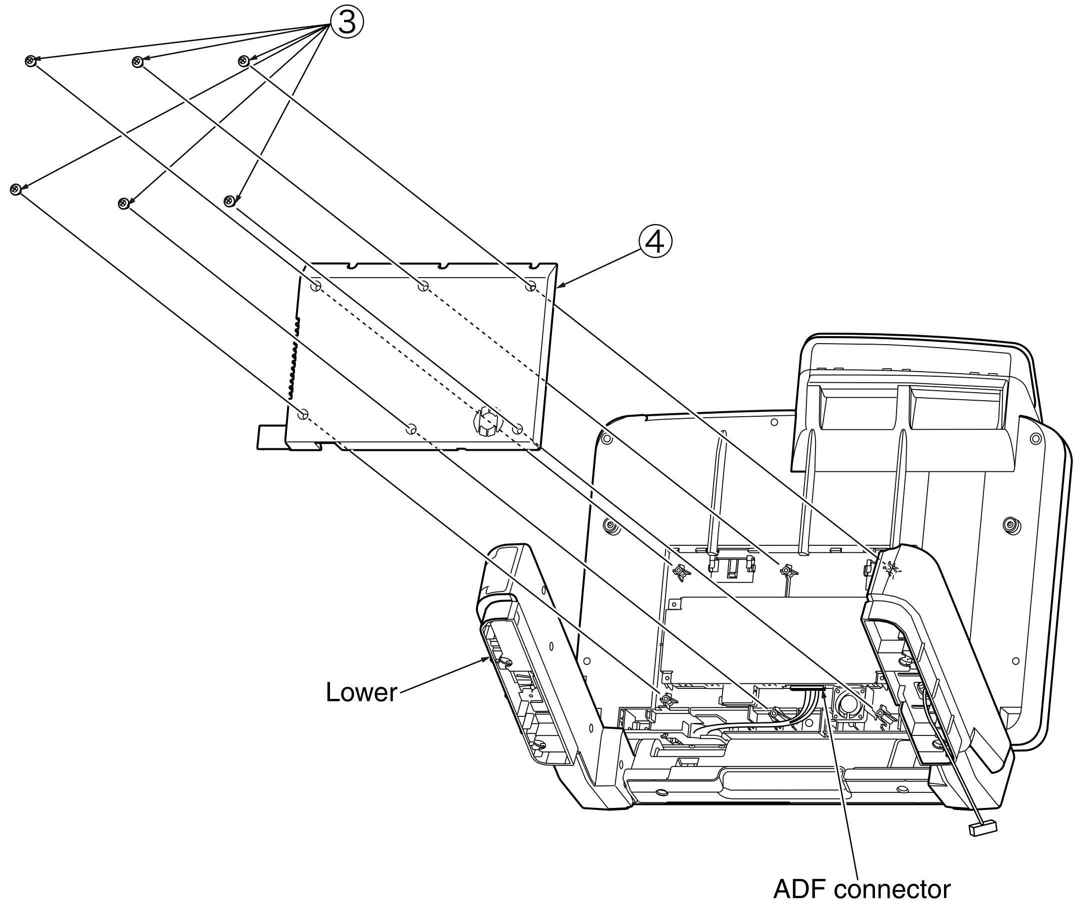


Fig 4.3.18

(5) Unthread the cable through its guide groove.

(6) Turn over the scanner again and open the document cover (the ADF assembly 5).

(7) Slightly lift the ADF assembly ⑤. As illustrated, unlock each hinge of the ADF assembly ⑤ by inserting closed curved-tip tweezers and, in the direction of the arrow, lightly pressing the tweezers. Lift and remove the ADF assembly ⑤.

Note: For the structure of each hinge joint of the ADF assembly ⑤, see the cross-section view shown below.

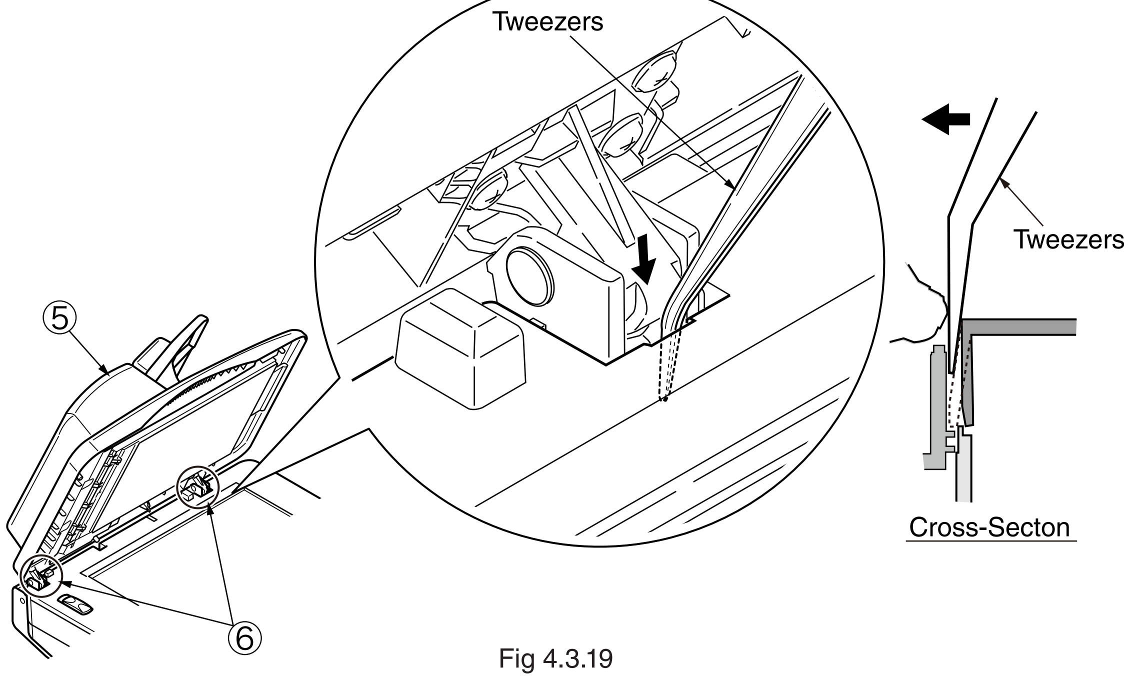


Fig 4.3.19

(8) Turn the ADF Assembly ⑤ upside down.

(9) Remove the six screws(black) ⑦ and then the hinge Assembly ⑥.

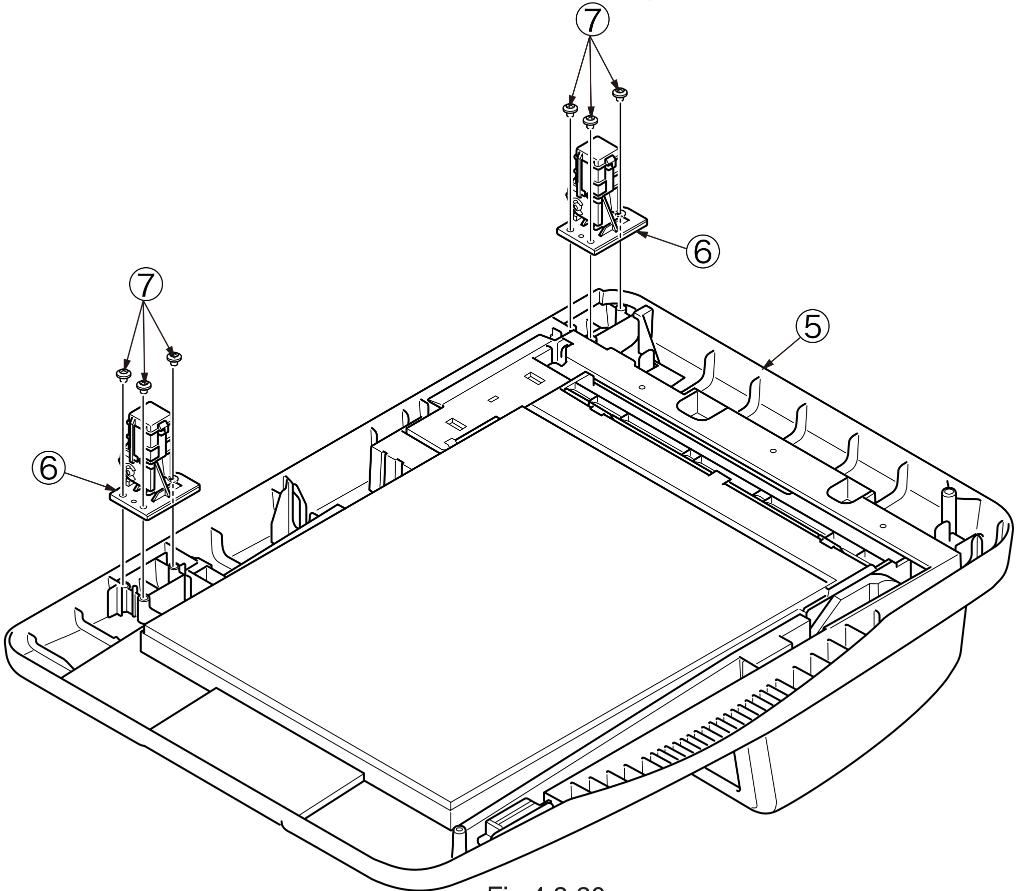


Fig 4.3.20

4.3.2.7 Removing the Window-ADF

(1) Gently open the document cover.

(2) Flip the sheet and remove five screws (black) ①.

(3) Remove the Window-ADF ②.

Note: Be careful not to crease the sheet.

Be careful not to damage the glass surface with tools.

When replacing the Window-ADF ② with a new Window-ADF ②, remove the white protective film from the new Window-ADF ② to attach.

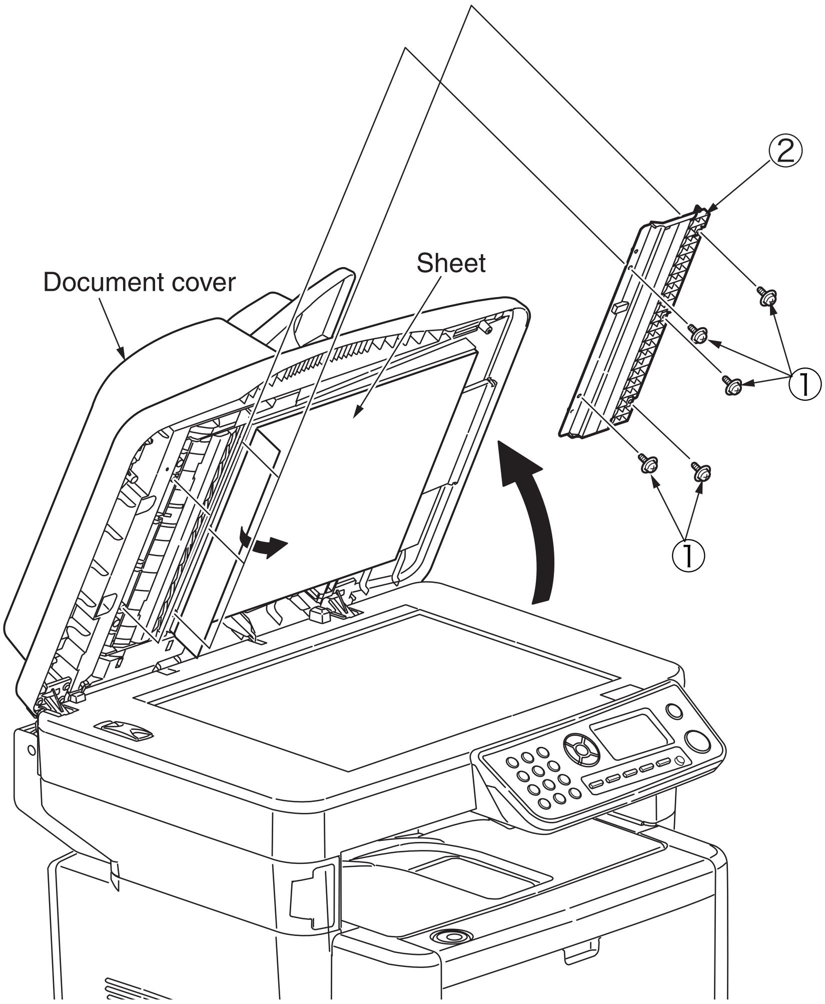


Fig 4.3.21

4.3.3 Printer

4.3.3.1 LED Head

(1) Lift the scanner.

(2) Open the Stacker-Cover-Assy.

(3) Remove the Holder-Head ①.

(4) Firstly open Hook A by narrow direction and then remove it. Secondly remove Hook B then remove LED Assy ②. (At this moment, the two springs ③ can be also removed jointly.)

(5) Remove cable from the connector of LED Assy ②.

(6) Installing is performed by the reverse procedure with removing.

Note! Beware of not to touch or press the SLA parts of LED Head directly.

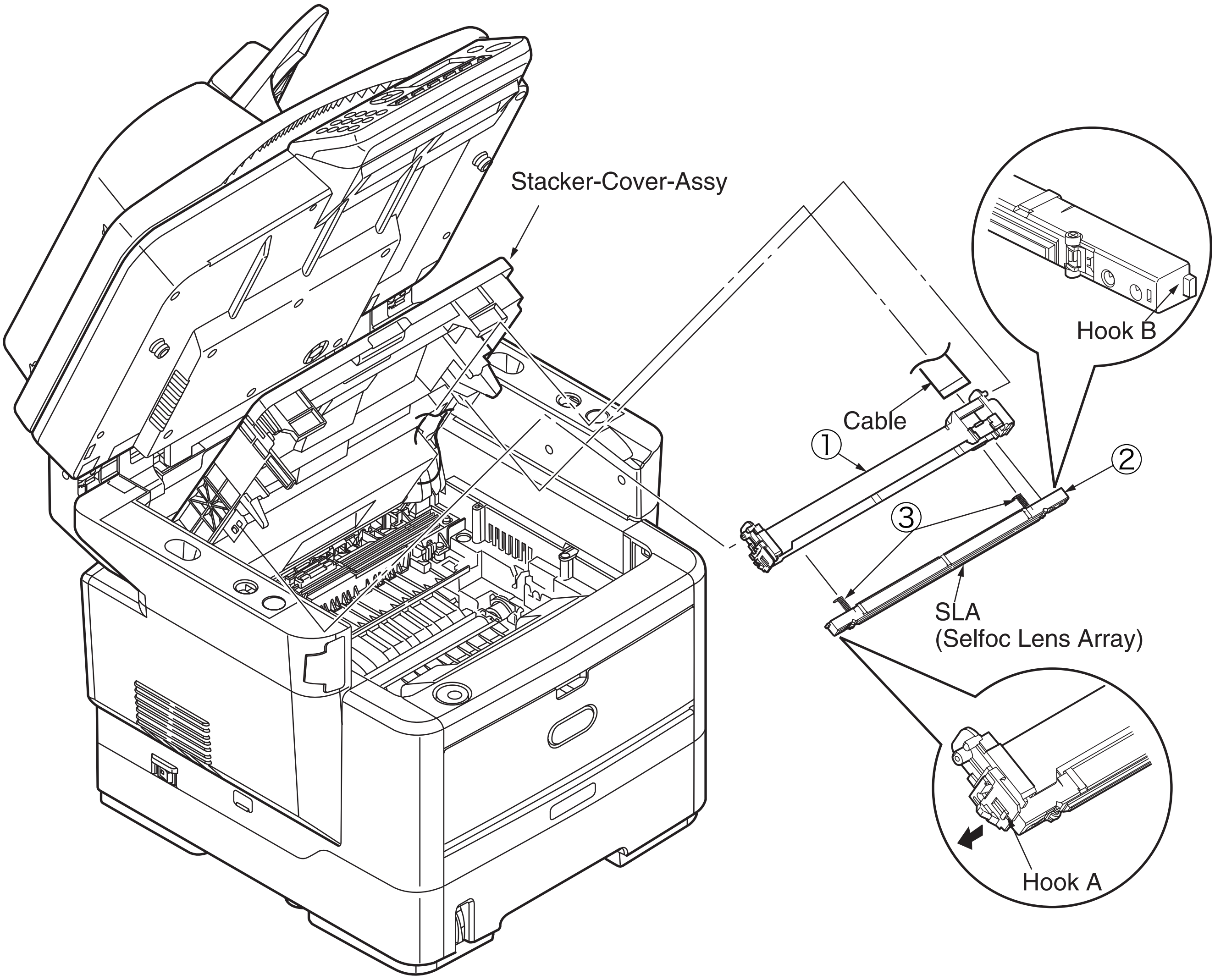

Stacker-Cover-Assy
Hook B
Cable
①
②
③
SLA
(Selfoc Lens Array)
Hook A

Fig 4.3.22

4.3.3.2 Roller-Transfer

(1) Lift the scanner.
(2) Open the Stack-Cover –Assy
(3) Remove latches in the 2 places of Gear-TR ③ and Bearing-TR ① on the conversing side. (Do not add any unnecessary pressure while removing the latch.)
(4) Slightly slide the Roller-transfer ② to the right side and remove the post on the top of gear from the contact of Frame-Assy-Lower. Remove the latches on the 2 places of Gearing-TR ① of Gear.
(5) Hold the Bearing-TR ① on the both side, and then lift up the Roller-Transfer ②. (At this moment, Gear-TR ③ is also removed.)
(6) Installing is performed by the inverse procedure with removing.

(Note on removing / installing)

1. Beware of not to touch the DC motor inattentively (Do not rotate motor).
2. While installing, pay attention to the up-and-down direction of Bearing-TR ①.
3. Operating carefully, not to touch Roller-Transfer ② surface.

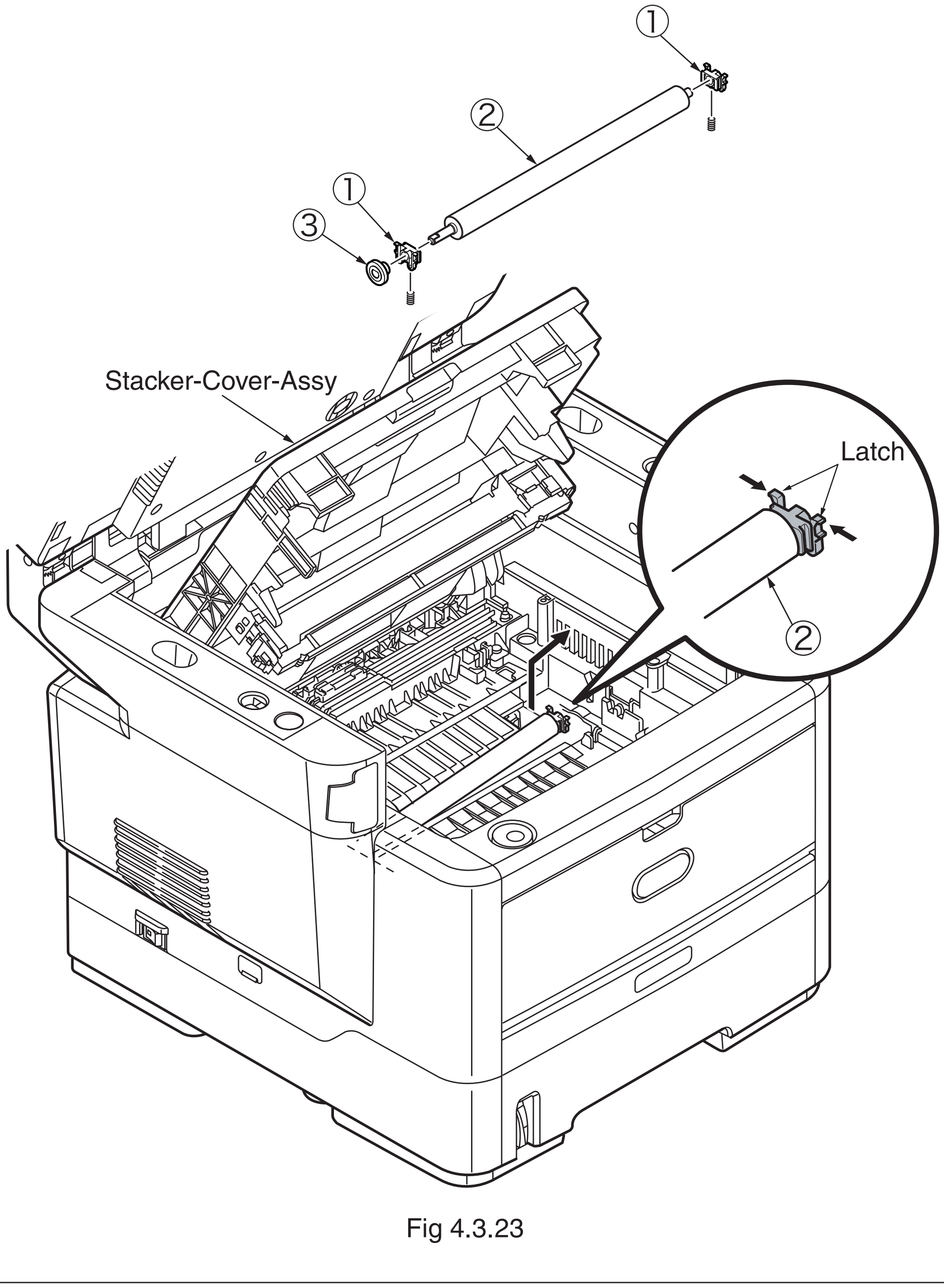


Fig 4.3.23

4.3.3.3 CU Board

(1) Remove the Cover-Side-R. (Refer to 4.3.1.1)

(2) Remove the Plate-shield-Cover-FAX(Refer to 4.3.1.3) (In case of MB470/480)

(3) Remove the Plate-Shield-Base-FAX(with Board-FAX).(Refer to 4.3.1.4 (3)) (In case of MB470/480)

(4) Remove the Cable-clamp . (Refer to 4.3.1.4(4)) (In case of MB460)

(5) Remove the Plate-Shield-Cover-CU.(Refer to 4.3.1.4(5))

(6) Remove the all cable connector.

(7) Remove the two screws (Silver) ①,two screws (Silver) ②. Remove the CU board ③.

(8) Installing is performed by the inverse procedure with removing.

(Note on removing / installing)

1. Beware of not to touch the DC motor inattentively (Do not rotate motor).

2. Beware of not to tuck down the cable while installing the Plate-Cover-Shield-CU .

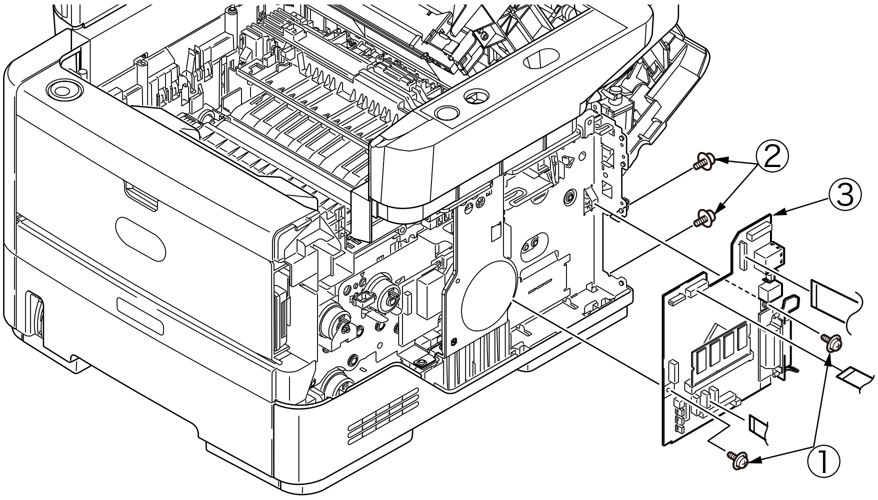


Fig 4.3.24

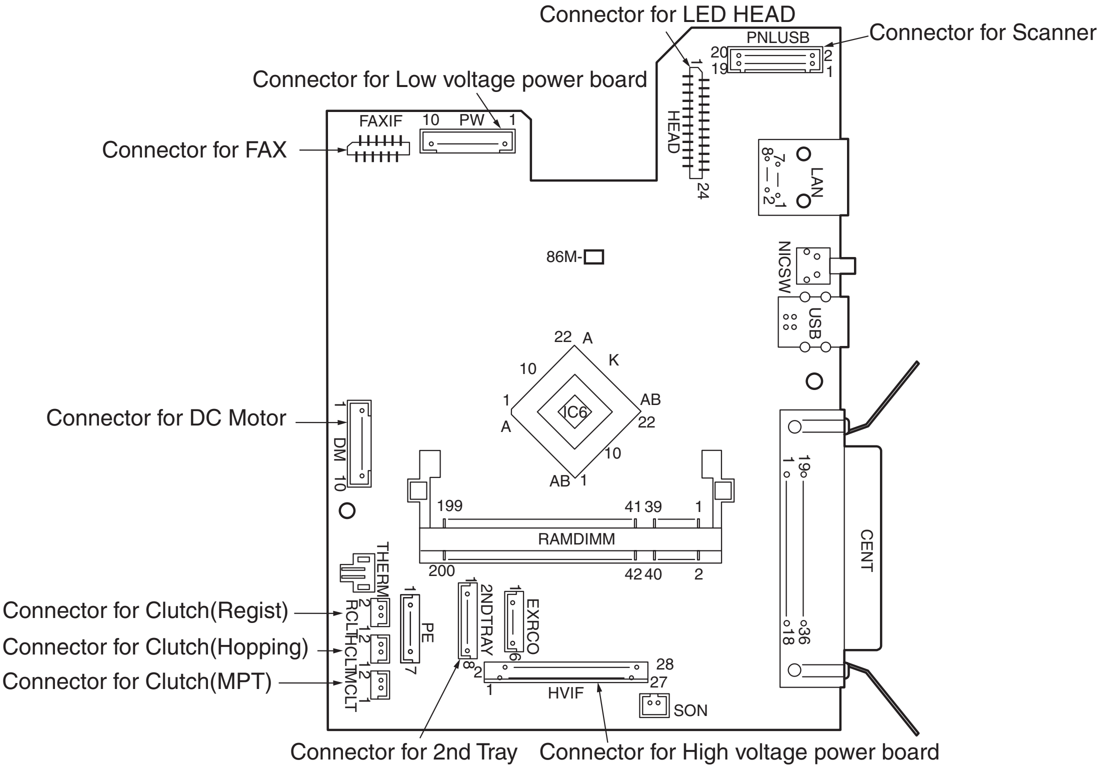

Connector for LED HEAD
Connector for Scanner
Connector for Low voltage power board
Connector for FAX
Connector for DC Motor
Connector for Clutch(Regist)
Connector for Clutch(Hopping)
Connector for Clutch(MPT)
Connector for 2nd Tray
Connector for High voltage power board
PNLUSB
HEAD
FAXIF
PW
LAN
NICSW
USB
86M-
IC6
RAMDIMM
CENT
DM
THERM
RCLT
HCLT
MCLT
PE
2NDTRAY
EXRCO
HVIF
SON

Fig 4.3.25

4.3.3.4 OP Cover Assy

(1) Lift the scanner.

(2) Open the Rear-Cover-Assy.

(3) Open the Stacker-Cover-Assy.

(4) Remove the Cover-Side-R and the Cover-Side-L. (Refer to 4.3.1.1 / 4.3.1.2)

(5) Open the Cover-Assy-MPT.

(6) Pull Claw A by the arrow direction. Remove the clamp by pushing Claw B as the arrow direction. Remove the OPE Cover Assy ①.

(7) Installing is performed by the reverse procedure with removing.

(Note on removing / installing)

1. Beware of not to touch the DC motor inattentively (Do not rotate motor).

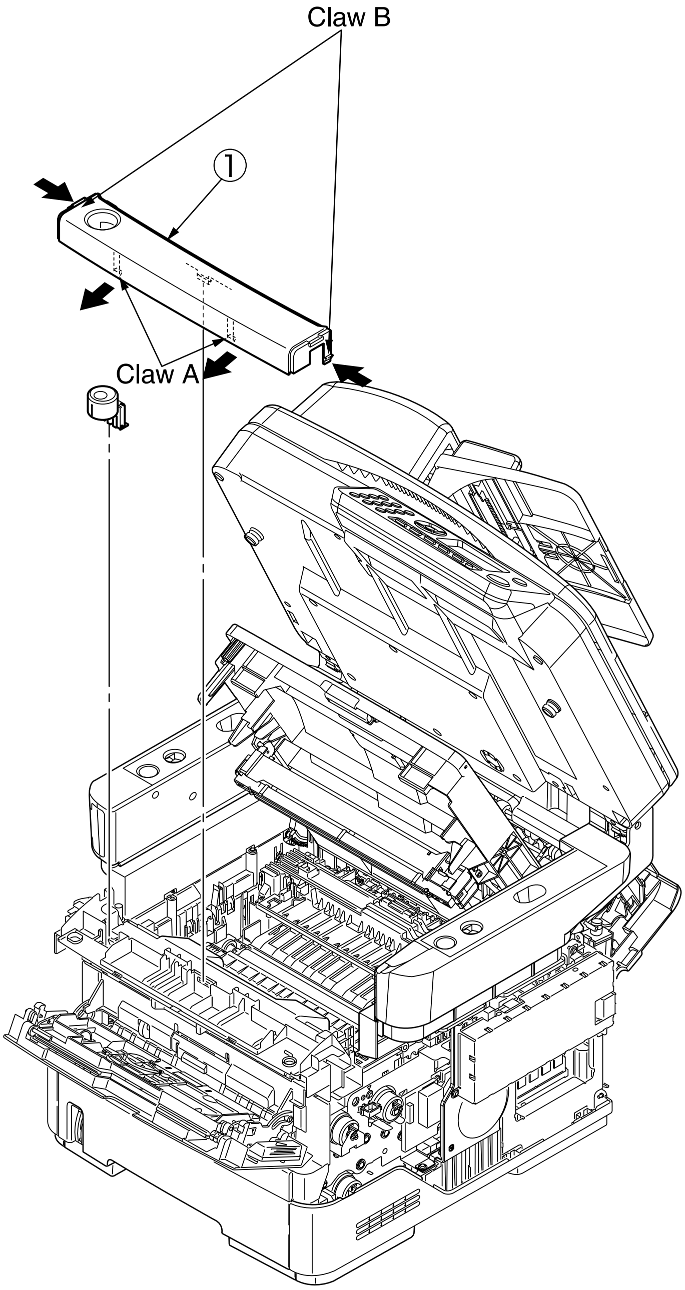


Fig 4.3.26

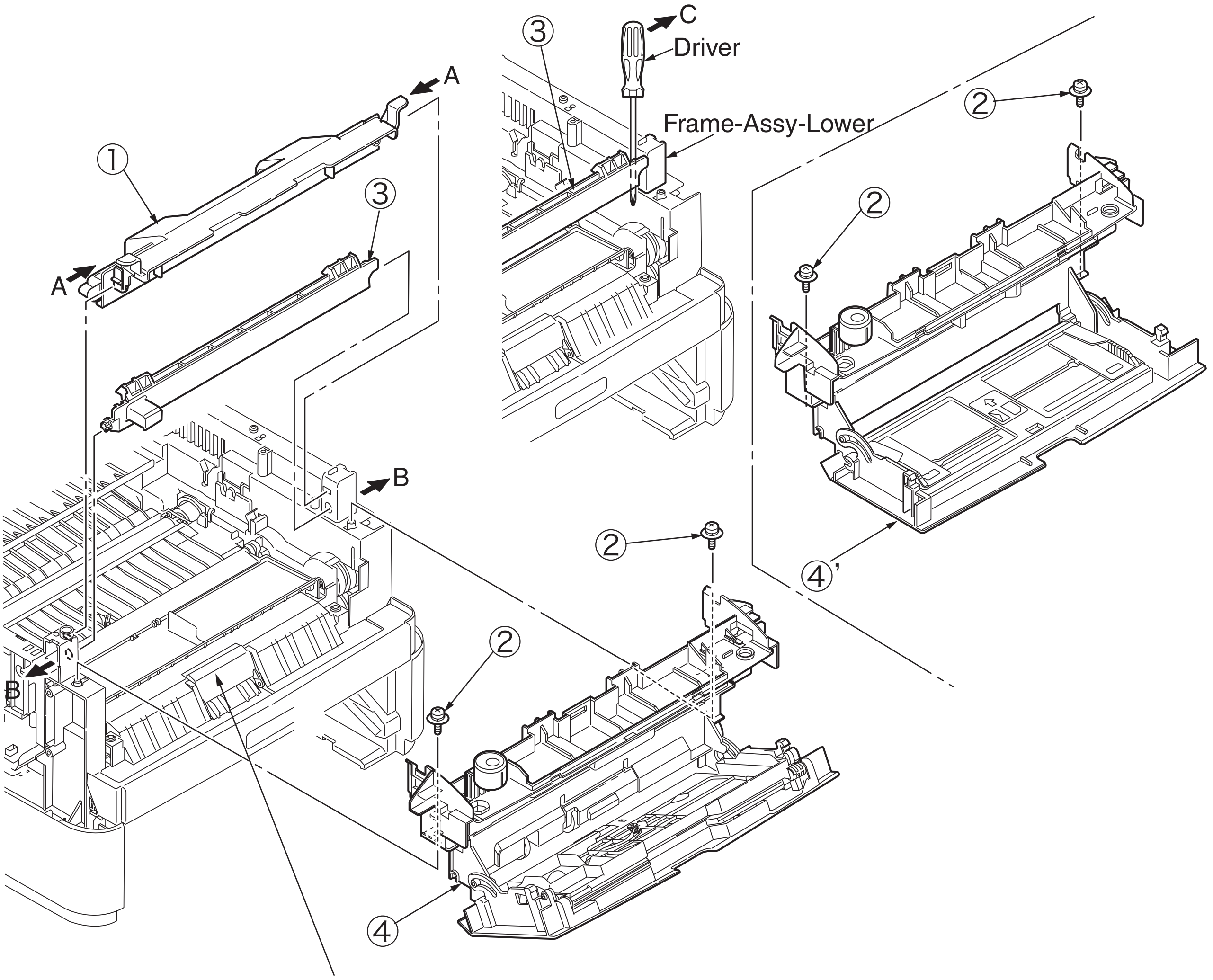
4.3.3.5 MPT-Assy (In case of MB460, it is Manual-Assy)

(1) Lift the scanner.
(2) Open Rear-Cover-Assy.
(3) Open Stacker-Cover-Assy.
(4) Remove Cover-Side-R and Cover-Side-L. (Refer to 3.3.3/3.3.4)
(5) Remove OPE Cover-Assy. (Refer to 3.3.7)
(6) Remove the clamp of claw by pushing by arrow A direction, and then remove Cover-Lever-Lock ①.
(7) Remove the 2 screws (Black) ②.
(8) Open the Frame-Assy-Lower by arrow B direction, and then remove Lever-Lock-Top ③.
(9) Holding up MPT-Assy ④ (Manual-Assy ④) and remove it.
(10) Installing is performed by the inverse procedure with removing.

Note! While removing the Lever-Lock-Top ③, it is easy to remove it by inserting the driver between the Frame-Assy-Lower and Lever-Lock-Top ③ and press the driver by Arrow C direction.

(Note on removing / installing)

1. Beware of not to touch the DC motor inattentively (Do not rotate motor).



Pay attention not to let Separating- Pad- Assy pop out to your front side while installing MPT-Assy.

Fig 4.3.27

4.3.3.6 Front-Guide-Assy

(1) Lift the scanner.
(2) Open Rear-Cover-Assy.
(3) Open Stacker-Cover-Assy.
(4) Remove Cover-Side-R and Cover-Side-L. (Refer to 3.3.3/3.3.4)
(5) Remove OPE Cover-Assy. (Refer to 3.3.7)
(6) Remove MPT-Assy. (Refer to 3.3.9)
(7) Remove the clamp of claw by pushing by arrow direction, and then remove Cover-Paper-R ①.
(8) Remove the 2 screws (Black) ②. Remove Front-Guide-Assy ③.
(9) Installing is performed by the inverse procedure with removing.

(Note on removing / installing)

1. Beware of not to touch the DC motor inattentively (Do not rotate motor).

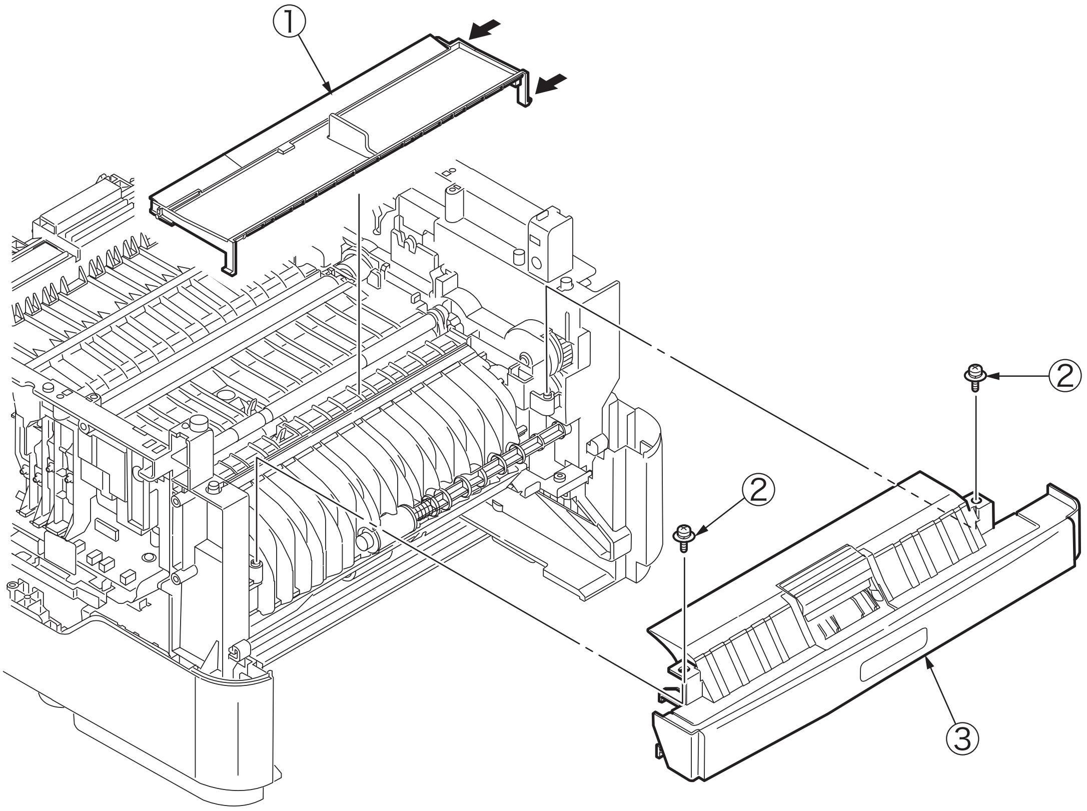


Fig 4.3.28

4.3.3.7 Roller-Assy-Feed

(1) Lift the scanner.
(2) Open Rear-Cover-Assy.
(3) Open Stacker-Cover-Assy.
(4) Remove Cover-Side-R and Cover-Side-L. (Refer to 3.3.3/3.3.4)
(5) Remove OPE Cover-Assy. (Refer to 3.3.7)
(6) Remove MPT-Assy. (Refer to 3.3.9)
(7) Remove Guide-Assy-Front. (Refer to 3.3.10)
(8) Remove Roller-Assy-Feed ① by arrow direction.
(9) Installing is performed by the inverse procedure with removing.

(Note on removing / installing)

1. Beware of not to touch the DC motor inattentively (Do not rotate motor).

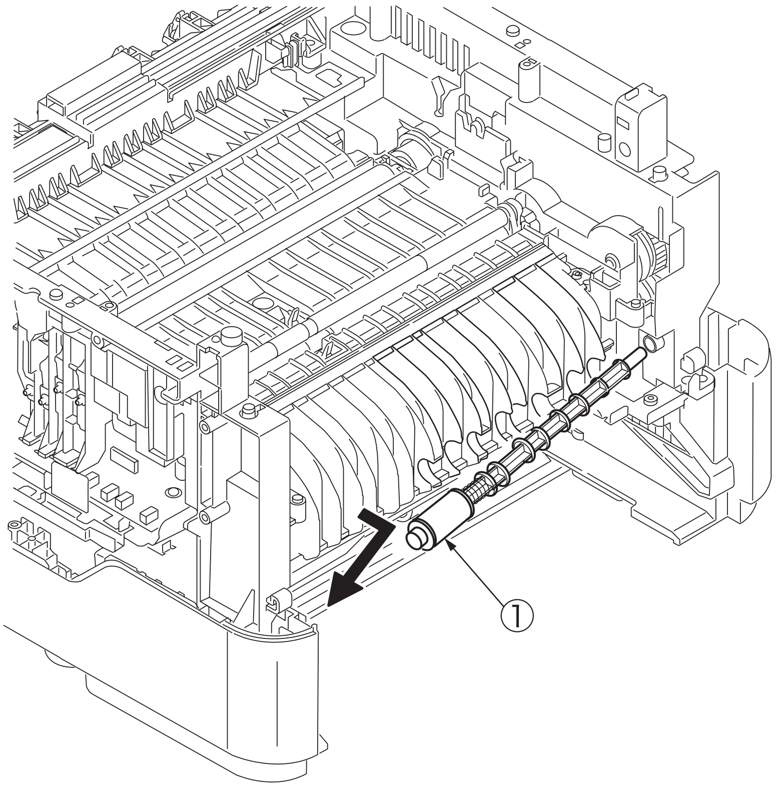


Fig 4.3.29

4.3.3.8 Guide-Paper-Duplex

(1) Lift the scanner.
(2) Open the Rear-Cover-Assy.
(3) Open the Stacker-Cover-Assy.
(4) Remove Cover-Side-R and Cover-Side-L. (Refer to 3.3.3/3.3.4)
(5) Remove OPE Cover-Assy. (Refer to 3.3.7)
(6) Remove MPT-Assy. (Refer to 3.3.9)
(7) Remove Front-Guide-Assy. (Refer to 3.3.10)
(8) Remove Roller-Assy-Feed. (Refer to 3.3.11)
(9) Remove Duplex-Assy.
(10) Remove the 2 screws (Black) ①. Remove Guide-Paper-Duplex ②.
(11) Installing is performed by the reverse procedure with removing.

(Note on removing / installing)

1. Beware of not to touch the DC motor inattentively (Do not rotate motor).

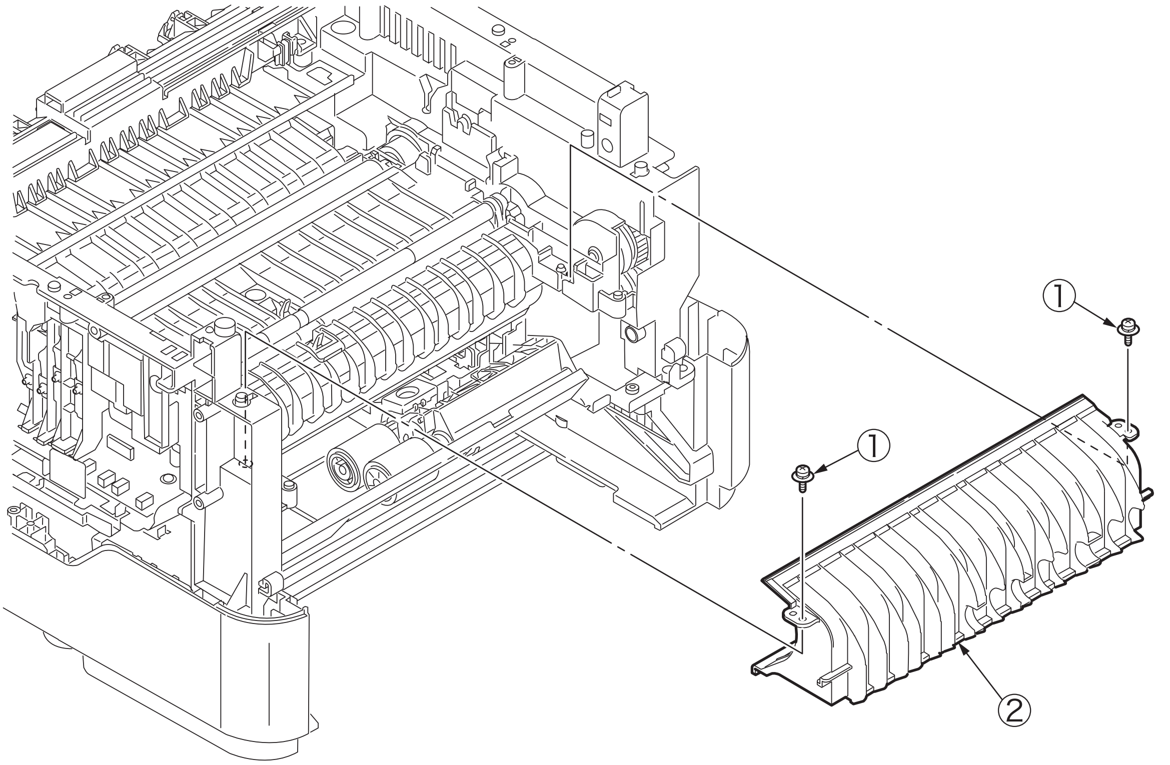


Fig 4.3.30

4.3.3.9 Stacker-Cover-Assy

(1) Detachment methods of the scanner and printer (Refer to 4.3.1.4)

(2) Remove the clamp by pushing claw A as the arrow direction . Pull the Cover-Blank-L ① upward remove it.

(3) Remove the clamp by pushing claw B as the arrow direction . Pull the Cover-Blank-R ② upward remove it.

(4) Remove the LED cable from the CU board.

(5) Remove the screw(Silver) ③.

(6) Open the Stacker-Cover-Assy ④ by the arrow direction and remove Stacker-Cover-Assy ④ from the supporting point of Frame-Assy-Lower.

(7) Installing is performed by the reverse procedure with removing.

(Note on removing / installing)

1. Beware of not to touch the DC motor inattentively (Do not rotate motor).

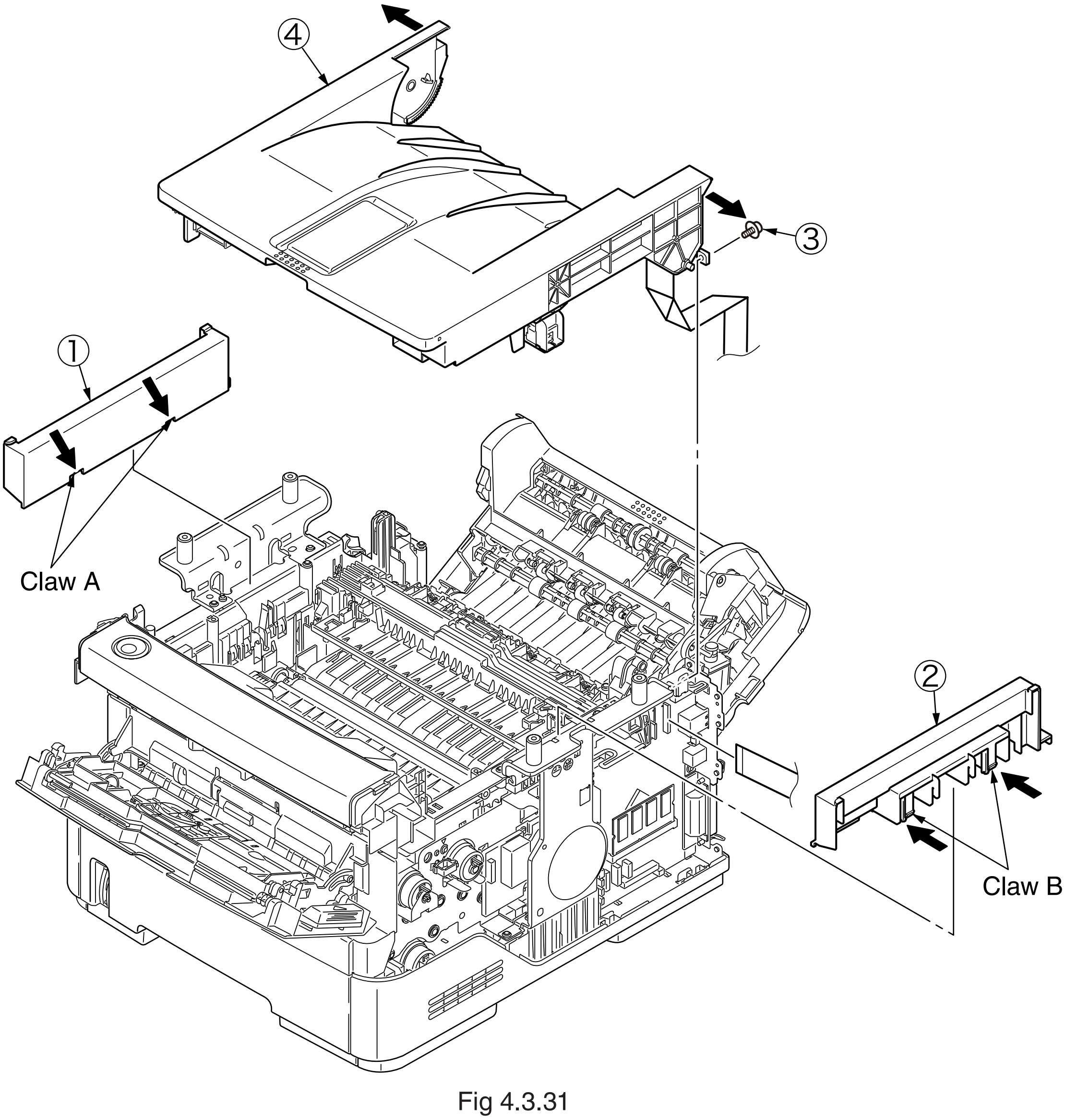


Fig 4.3.31

4.3.3.10 Motor-DC-Main

(1) Detachment methods of the scanner and printer (Refer to 4.3.1.4)
(2) Remove Stacker-Cover-Assy. (Refer to 4.3.3.9)
(3) Remove the three screws(black) ① and the two screws(silver) ②. Remove the Plate-Stay-R ③.
(4) Remove the connector ④ of Motor-DC-Main from the CU board.
(5) Remove the three screws (Silver) ⑤ and the screw (Black) ⑥.
(6) Remove the Motor-DC-Main ⑦. Unthread the cable from the Piece-Guide .
(7) Installing procedure is performed by the opposite order with removing.

(Note on removing / installing)

1. Beware of not to touch the DC motor inattentively (Do not rotate motor).

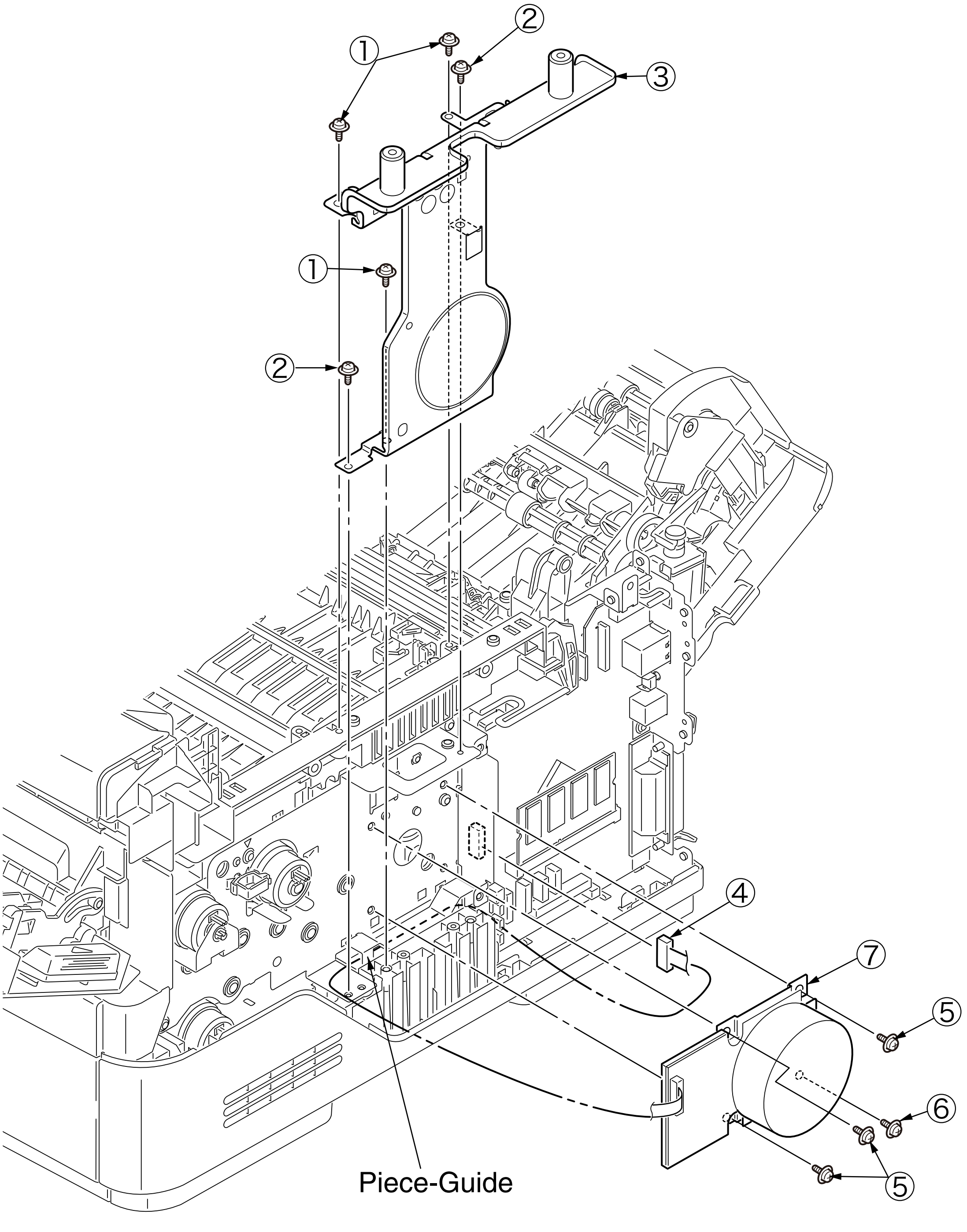


Fig 4.3.32

4.3.3.11 Fuser-Assy

Note! Replace the Fuser-Assy by Assy unit.
It is forbidden for disassembling the Fuser-Assy, also, reusing the disassembled Fuser-Assy.

(1) Detachment methods of the scanner and printer.(Refer to 4.3.1.4)
(2) Remove Stacker-Cover-Assy. (Refer to 4.3.3.9)
(3) Unplug connector (Motor-Fan) ① and connector (thermistor) ② from high voltage power board .
(4) Remove the three screws(black) ③ . Remove the Plate-Stay-L ④ .
(5) Remove Motor-Fan ⑤. Remove Piece-Guide ⑥.
(6) Unplug the connector ⑦ of Fuser-Assy, which is at the back side of Piece-Guide ⑥.
(7) Remove the four screws (Silver) ⑧. Remove the Fuser-Assy ⑨ by bowing down the lock at the left side.
(8) Installing is performed by the inverse procedure with removing.

Note! Fuser-Assy ⑧ may be really hot, beware of handling.

(Note on removing / installing)

1. Install the screw (Silver) ⑦ in its original groove. (Do not make new screw tap.)
2. Do not add excessive pressure while tightening the screw (Silver) ⑦.
3. Beware of not to touch the DC motor inattentively (Do not rotate the motor).
4. Install the Motor-Fan ④ by combining the arrow indicating Fan flowing direction and the arrow direction that is incused on the Fan-Lower.
5. Beware of not to deform the thermistor while replacing the Fuser-Assy.
6. While removing or installing FAN, do not press impeller of the FAN as shown by the following photo. In case of the impeller unfastened by mistake, do not reuse it and install a new FAN.

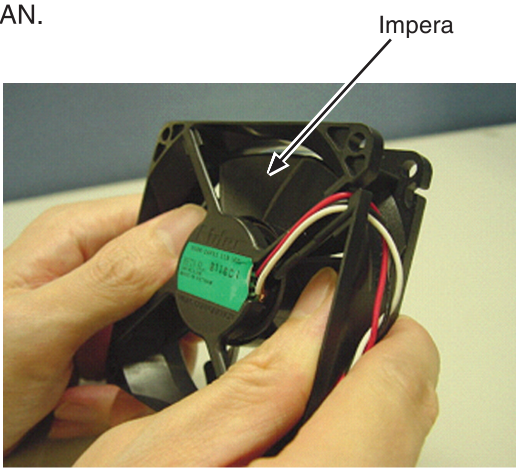


Fig 4.3.33

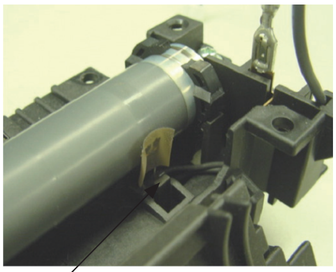

Thermistor

Fig 4.3.34

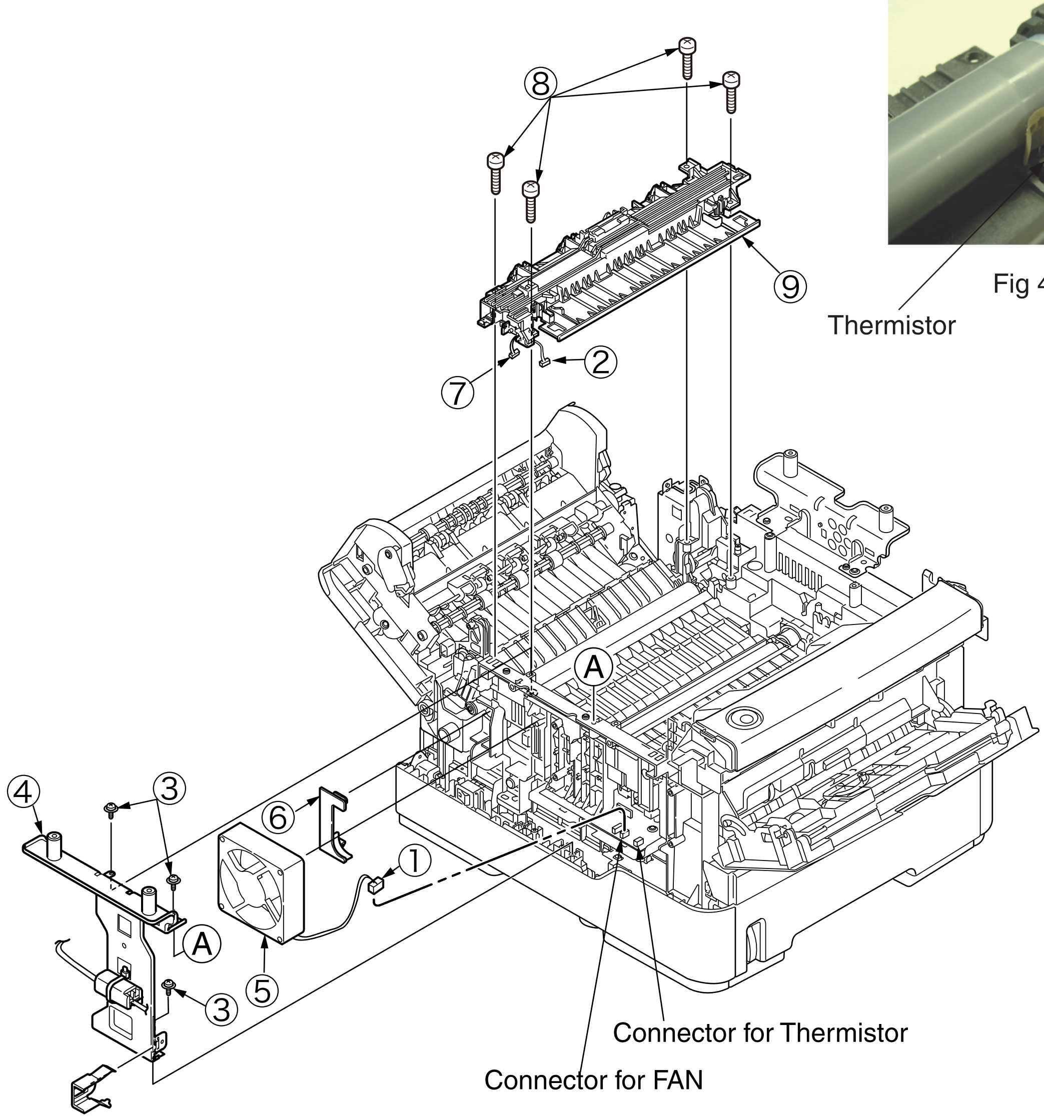

⑧
⑨
②
⑦
Ⓐ
④
③
⑥
①
Ⓐ
⑤
③
Connector for Thermistor
Connector for FAN

Fig 4.3.35

4.3.3.12 Rear-Cover-Assy

(1) Lift the scanner.

(2) Open the Rear-Cover-Assy.

(3) Open the Stacker-Cover-Assy.

(4) Remove the Cover-Side-R and the Cover-Side-L. (Refer to 4.3.1.1/ 4.3.1.2)

(5) Remove Cover-Face Up-A ① from the supporting point with opening the right side supporting point part of Rear-Cover-Assy.

(6) Remove the two screws (Black) ②. Remove Plate-Solenoid ③.

(7) Remove Solenoid ④ from Rear-Cover-Assy ⑤.
Because the plunger is not fixed, beware of not to drop or lose it.

(8) Remove Rear-Cover-Assy ⑤ by bowing down the supporting point part of Rear-Cover-Assy ⑤ to the inner side.

(9) Installing is performed by the inverse procedure with removing.

(Note on removing / installing)

1. Beware of not to touch the DC motor inattentively (Do not rotate motor).
2. About the installing of Rear-Cover-Assy ⑤ , remove Cover-Face Up-A ①, make the supporting point part to a bowed situation and then perform installing.

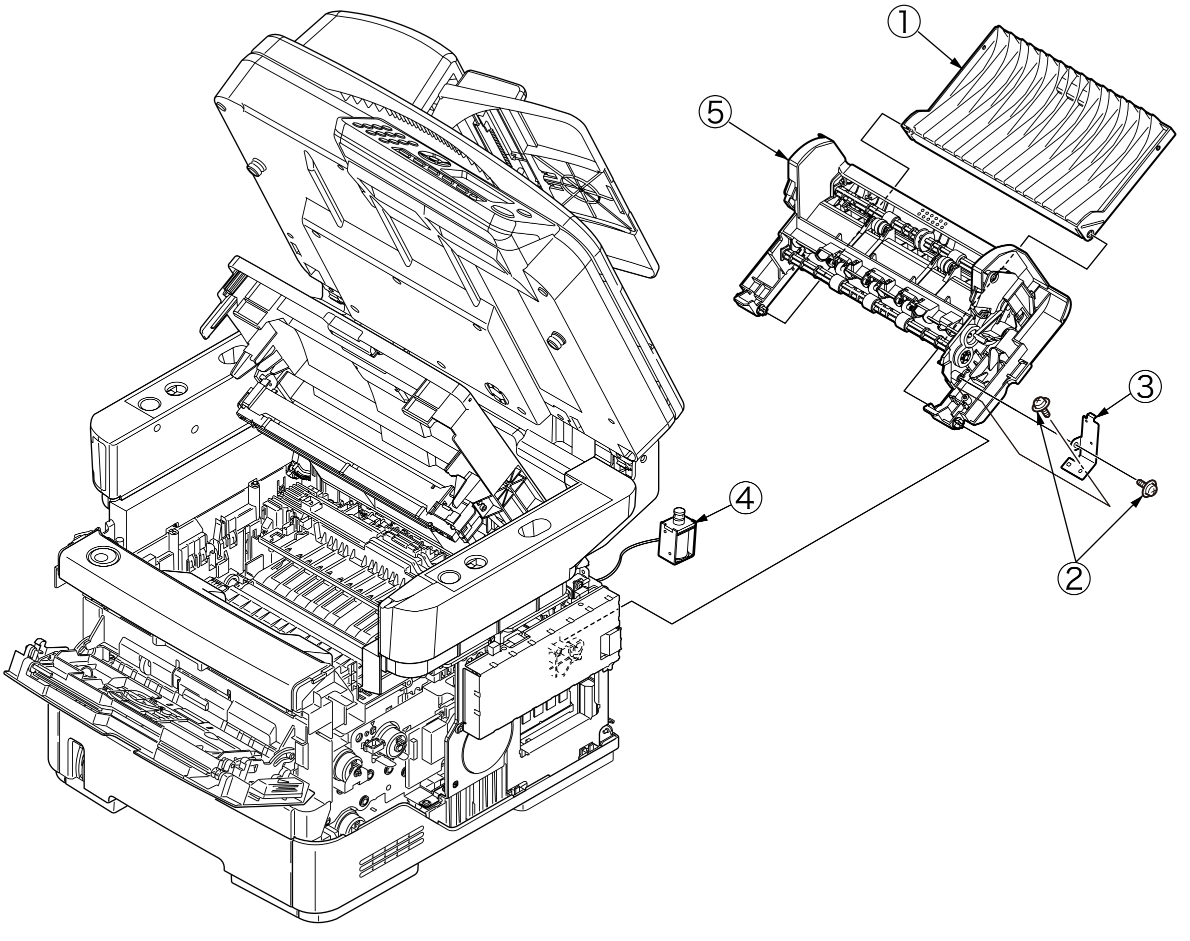


Fig 4.3.36

4.3.3.13 Frame-Assy-Lower

(1) Detachment methods of the scanner and printer. (Refer to 4.3.1.4)
(2) Remove CU Board. (Refer to 4.3.3.3)
(3) Remove OP Cover-Assy. (Refer 4.3.3.4)
(4) Remove MPT-Assy. (Refer to 4.3.3.5)
(5) Remove Front-Guide-Assy. (Refer to 4.3.3.6)
(6) Remove Roller-Assy-Feed. (Refer to 4.3.3.7)
(7) Remove Guide-Paper-Duplex. (Refer to 4.3.3.8)
(8) Remove Stacker-Cover-Assy. (Refer to 4.3.3.9)
(9) Remove Motor-DC-Main. (Refer to 4.3.3.10)
(10) Remove the two screws (Silver) ① and the screw (Black) ②. Remove Plate-Shield-CU ③.
(11) Pass the connector of Low Voltage Power Board through the Portion A of Plate-Bracket-Motor from above to the downward.
(12) Remove Fuser-Assy. (Refer to 4.3.3.11)
(13) Remove Rear-Cover-Assy. (Refer to 4.3.3.12)
(14) Remove all the cable from Hook A of Holder-SNS, extend them and put on the right front side of the printer.
(15) Remove connector B from high voltage power board.
(16) Remove the four long screws ④ (Silver) , the four screws (Black) ⑤, the short screw (Silver) ⑥.
(17) Remove Hook C and Hook D of Plate-Base-PCB using minus driver.
(18) Remove Frame-Assy-Lower ⑦.
(19) Installing is performed by the inverse procedure with removing.

(Note on removing / installing)

1. Beware of not to touch the DC motor inattentively (Do not rotate motor).
2. While installing Frame-Assy-Lower ⑦, beware of not to tuck Cable- Ⓔ , Cable- Ⓕ and Cable- Ⓖ between Frame-Assy-Lower and Plate-Base-PCB.

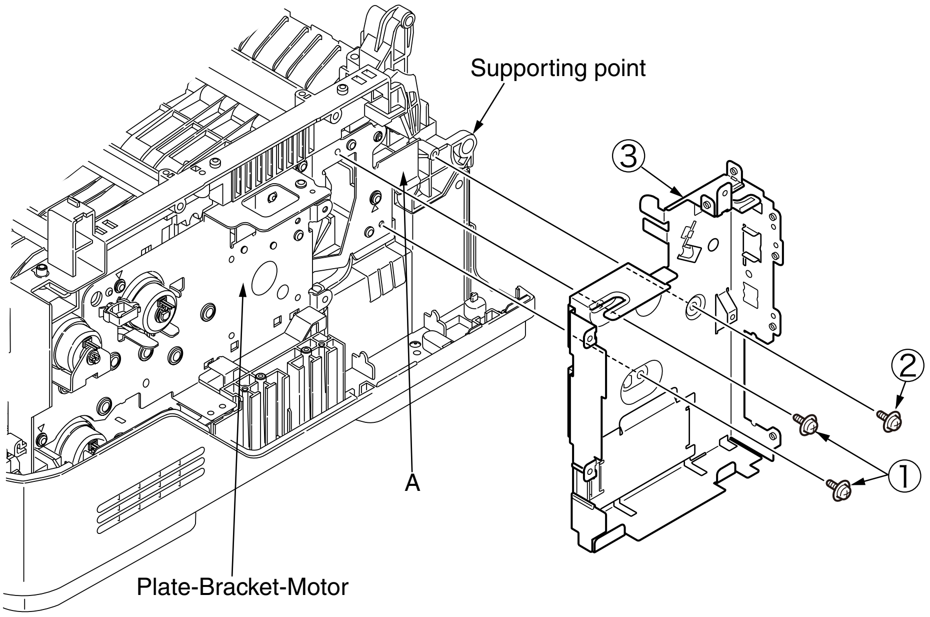


Fig 4.3.37

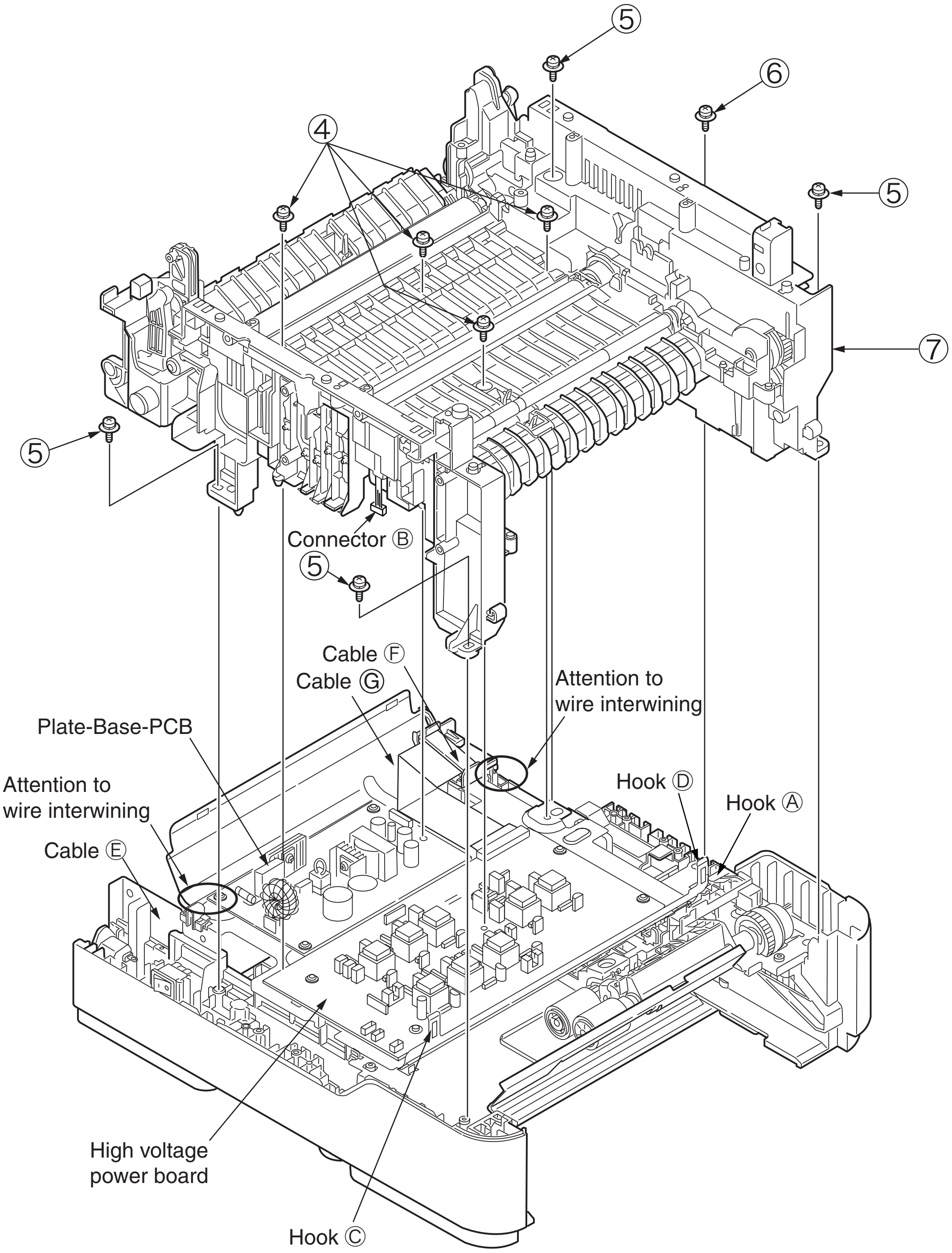

⑤
⑥
④
⑤
⑦
⑤
Connector Ⓑ
⑤
Cable Ⓕ
Cable Ⓖ
Attention to wire interwining
Plate-Base-PCB
Attention to wire interwining
Hook Ⓓ
Hook Ⓐ
Cable Ⓔ
High voltage power board
Hook Ⓒ

Fig 4.3.38

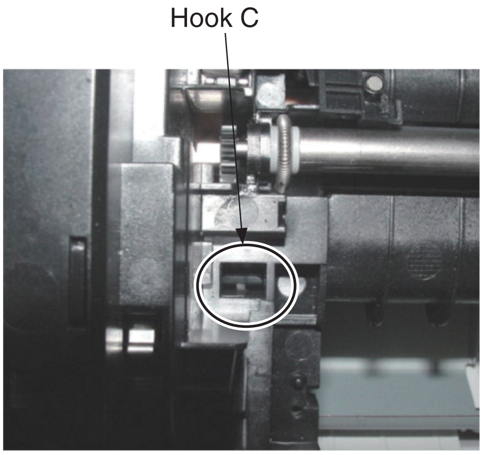


Fig 4.3.39

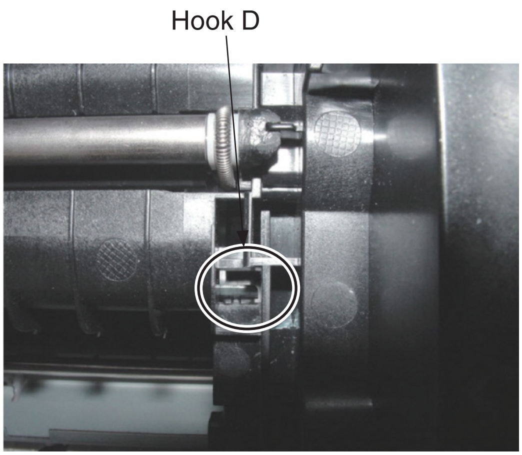


Fig 4.3.40

4.3.3.14 High voltage / Low voltage power board

⚠**Warning**	Risk of Electric Shock	⚠

There is a risk of electric shock during replacement of the low voltage power supply.

Use insulating gloves or avoid direct contact with any conducting part of the power supply, and caution should be exercised during replacement.

The capacitor may take one minute to complete discharge after the AC cord is unplugged. Also, there is a possibility that the capacitor doesn't discharge because of a breakage of the PCB, etc., so remember the possibility of electric shock to avoid electric shock.

(1) Detachment methods of the scanner and printer (Refer to 4.3.1.4)

(2) Remove the Frame-Assy-Lower (Refer to 4.3.3.13)

(3) Remove the big screw (Silver) ①. Remove the earth wire.

(4) Remove the AC socket ② and power switch ③. Remove Guide-Cassette-L.

(5) Remove the three small screws (Silver) ④. Remove Low voltage power board ⑤.

(6) Remove the four small screws (Silver) ⑥. Remove High voltage power board ⑦.

(7) Installing is performed by the inverse procedure with removing.

(Note on removing / installing)

1. Beware of not to touch the DC motor inattentively (Do not rotate motor).
2. Do not apply excessive pressure to the power switch ③.
3. While installing High voltage / Low voltage power board to the Plate-Base-PCB, do not deform the Plate-Base-PCB.
4. See Fig 4.3.42-47 for the routing of the FFC for the high-voltage board, and Fig 4.3.42-47 for folding the FFC.

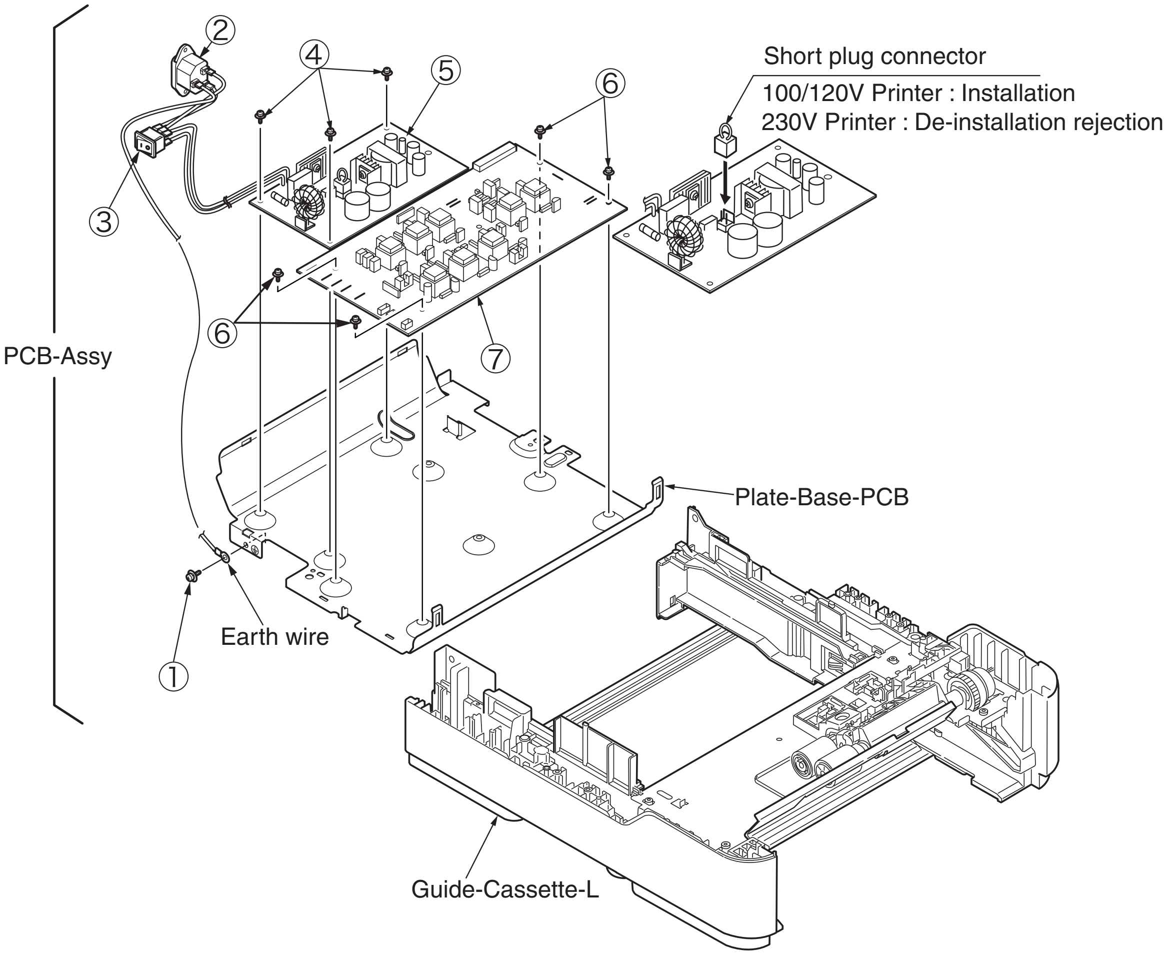


Fig 4.3.41

High-voltage Board FFC Folding

(1) FFC folded inward (text side in) 73 mm from end of high-voltage board.

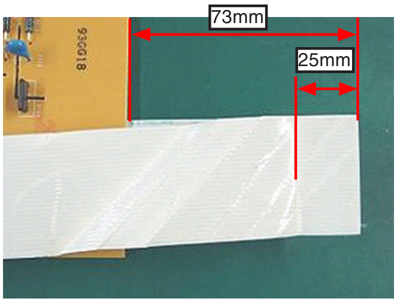


Fig 4.3.42

(2) Folded back 25 mm from first fold described in (1).

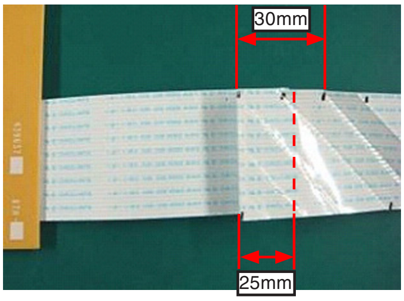


Fig 4.3.43

(3) Inner (upper right) end point folded inward, diagonally at 45° angle outward to outer edge, to form corner 30 mm from second fold

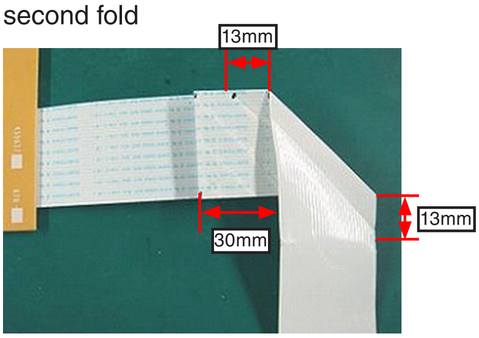


Fig 4.3.44

(4) Diagonal (45°) edge folded inward 20 mm of way to form new corner 13 mm from corner described in (3) (to form about 10-mm wide shape)

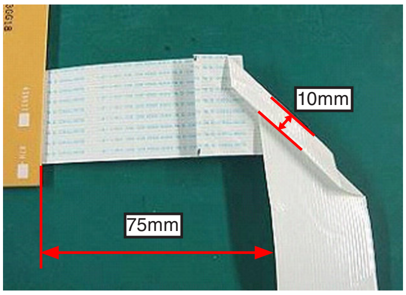


Fig 4.3.45

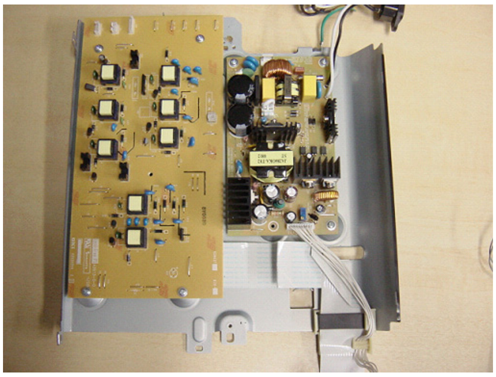


Fig 4.3.46

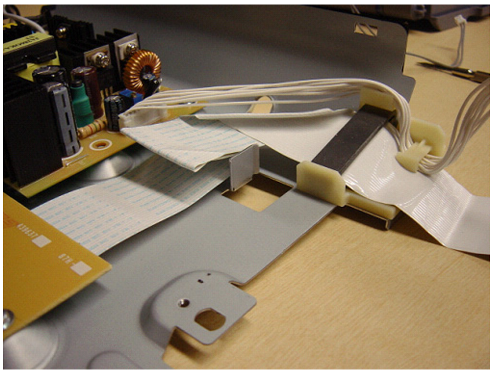


Fig 4.3.47

4.3.3.15 Plate-Bracket-Motor

(1) Detachment methods of the scanner and printer (Refer to 4.3.1.4)

(2) Remove the Frame-Assy-Lower (Refer to 4.3.3.13)

(3) Assemble Frame-Assy-Lower as the diagram.

(4) Remove the four screws (Black) ①. Remove Plate-Bracket-Motor ②.

(5) Installing is performed by the inverse procedure with removing.

(Note on removing / installing)

1. Beware of not to touch the DC motor inattentively (Do not rotate motor).
2. While installing beware of not to tuck Cable between Frame-Assy-Lower and Plate-Bracket-Motor.
3. Beware of not to drop the gear or scratch the surface of gear.
4. Because Gear-Idle-Drum-Z24-48 and Gear-Idle-Drum-Z27-82 are high precision gear, beware of handling them with particular care.

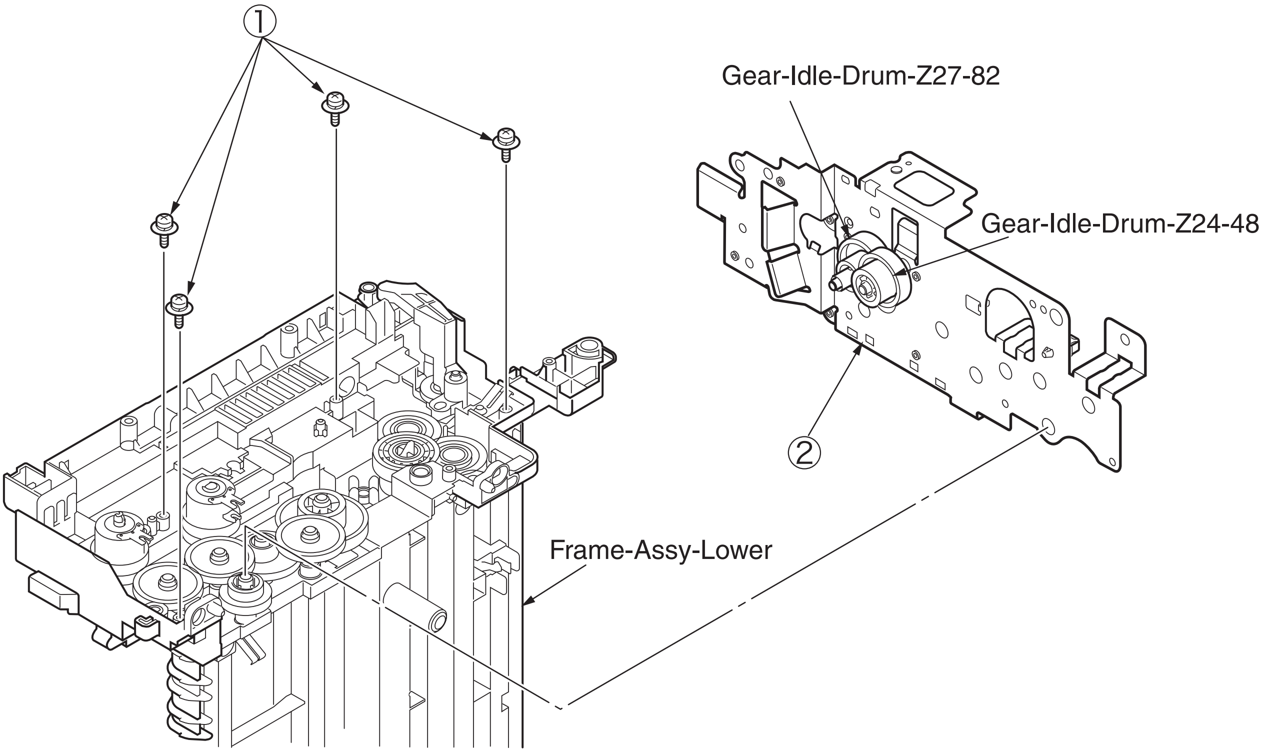


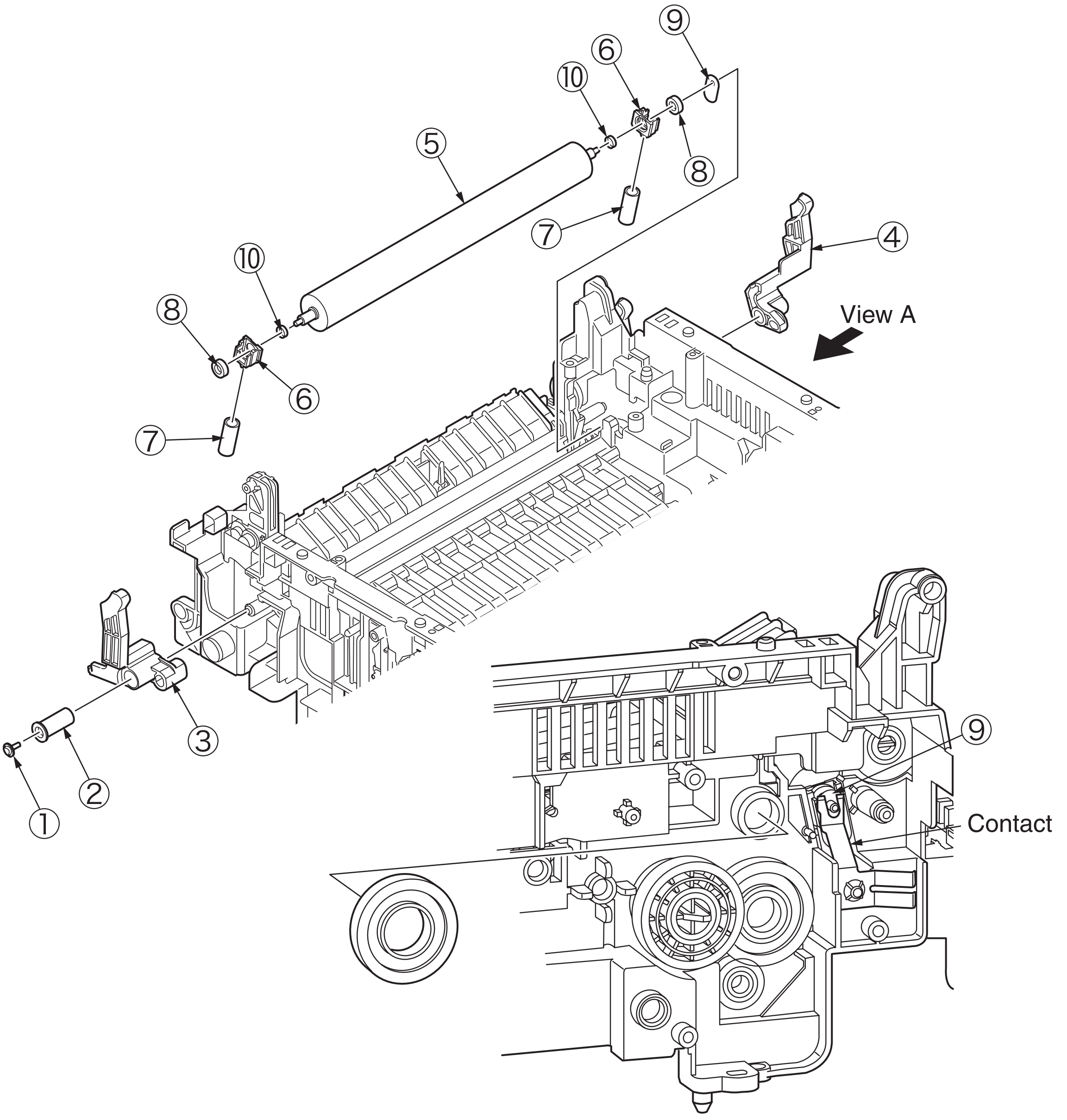
Fig 4.3.48

4.3.3.16 Roller-Back up

(1) Detachment methods of the scanner and printer. (Refer to 4.3.1.4)
(2) Remove the Frame-Assy-Lower. (Refer to 4.3.3.13)
(3) Remove the Plate-Bracket-Motor. (Refer to 4.3.3.15)
(4) Remove the screw (Black) ①. Remove the collar ② and Lever-Reset-L ③.
(5) Remove Lever-Reset-R ④.
(6) Lift up Roller-Back up ⑤ and remove it. (At this moment, two of Holder-BU ⑥, Spring-Bias (Back up) ⑦, Bearing-Ball ⑧, and Washer-C ⑨ are also removed.)
(7) Remove the collar ⑩ that are attached on both tops of the shaft of Roller-Back up ⑤.

(Note on removing / installing)

1. Beware of not to touch the DC motor inattentively (Do not rotate motor).
2. While installing Washer-C ⑨, confirm it existing between contact and Holder-BU ⑥. (Refer to View A)



View A

Fig 4.3.49

4.3.3.17 Roller-Resist

(1) Detachment methods of the scanner and printer. (Refer to 4.3.1.4)
(2) Remove the Frame-Assy-Lower. (Refer to 4.3.3.13)
(3) Remove the Plate-Bracket-Motor. (Refer to 4.3.3.15)
(4) Remove the E ring ①. Remove the Gear-Assy-Clutch ②, Spacer-Clutch ③ and Bearing-R ④.
(5) Remove the lock of Gear-Resist ⑤. Remove Gear-Resist ⑤, Bearing-Resist-Assy ⑥.
(6) Lift up the left side of Roller-Resist-Assy ⑦ and remove it at the arrow direction.
(7) Remove the lock of Gear-Pressure ⑧. Remove Gear-Pressure ⑧ from Roller-Pressure ⑨.
(8) Remove Plate-Contact-PA ⑪ and Holder-Resist from Roller-Resist ⑩.
Remove Holder-Resist ⑬.
(9) Installing is performed by the inverse procedure with removing.

(Note on removing / installing)

1. Beware of not to touch the DC motor inattentively (Do not rotate motor).

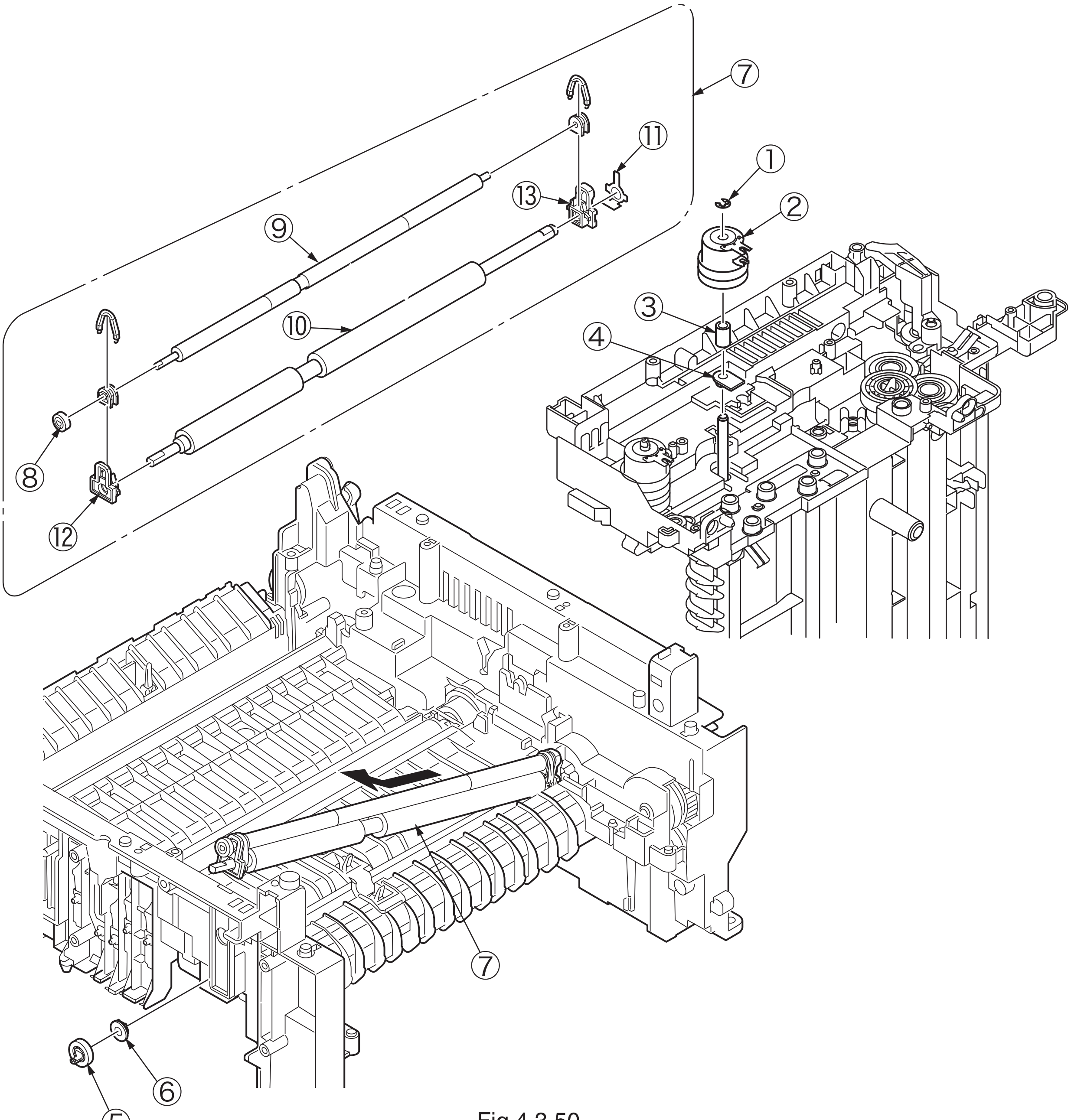


Fig 4.3.50

4.3.3.18 Lever-In-Sensor

(1) Detachment methods of the scanner and printer. (Refer to 4.3.1.4)

(2) Remove the Frame-Assy-Lower. (Refer to 4.3.3.13)

(3) Remove the Plate-Bracket-Motor. (Refer to 4.3.3.15)

(4) Remove the two Lever-In-Sensor (Entrance and Paper). Press the Clamp of ①, press Lever-In-Sensor ① as up direction and then remove them. While remove Lever-In-Sensor ①, beware of not to loss or break Spring-Sensor-In ②, Spring-Write-Sensor ③.

(5) Installing is performed by the inverse procedure with removing.

(Note on removing / installing)

1. Beware of not to touch the DC motor inattentively (Do not rotate motor).

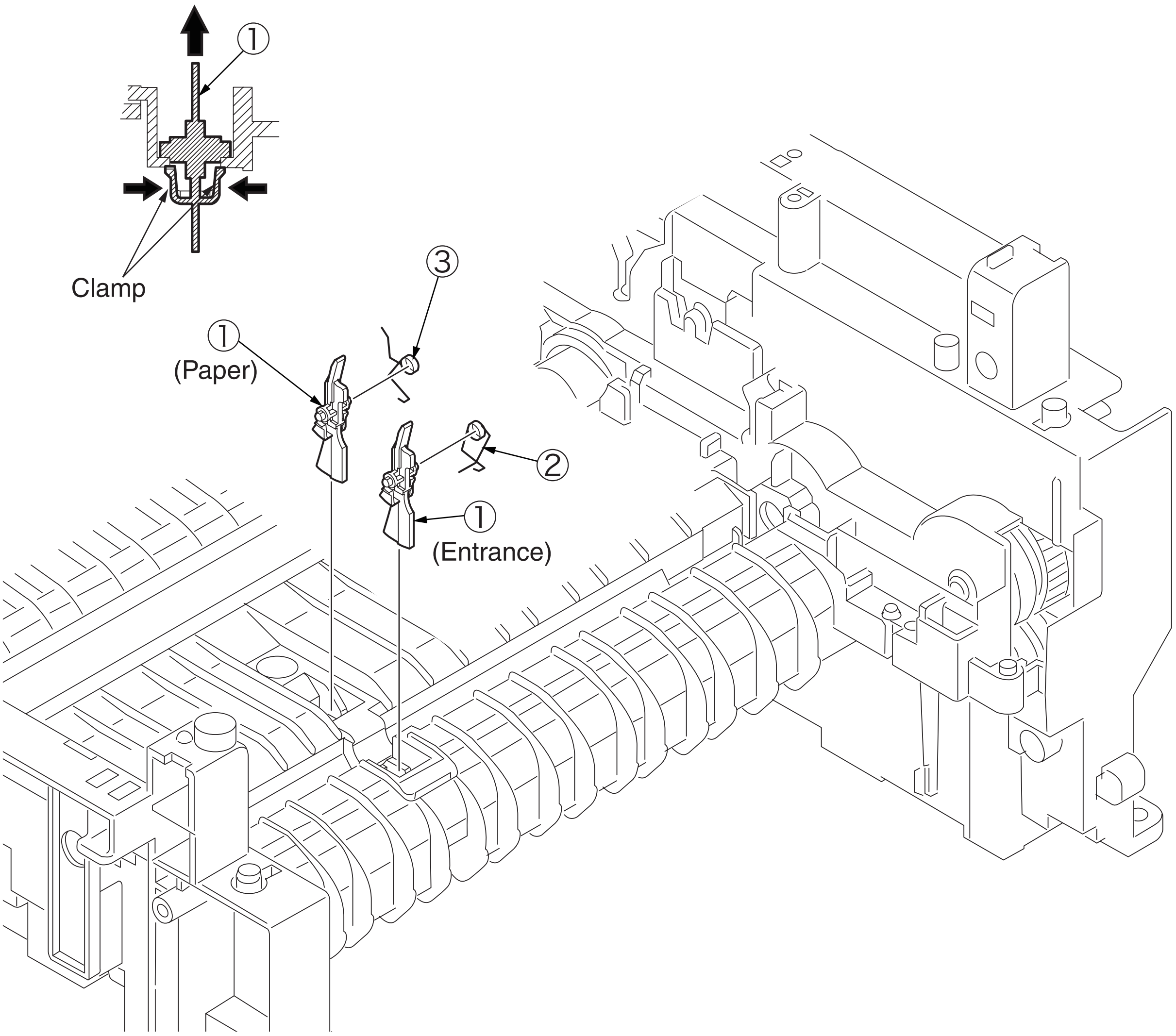


Fig 4.3.51

4.3.3.19 Lever-Eject-Sensor/Photo-Interrupter

(1) Detachment methods of the scanner and printer (Refer to 4.3.1.4)

(2) Remove the Frame-Assy-Lower (Refer to 4.3.3.13)

(3) Press the clamp of Lever-Eject-Sensor (Exit) ①. Press Lever-Eject-Sensor ① as down direction and remove it. While remove Lever-Eject-Sensor ①, beware of not to loss or break Spring-SNS ②.

(4) Press the claw of Frame-Assy-Lower as the arrow direction. Remove Photo-Interrupter ③ by down direction.

(5) Installing is performed by the inverse procedure with removing.

(Note on removing / installing)

1. Beware of not to touch the DC motor inattentively (Do not rotate motor).

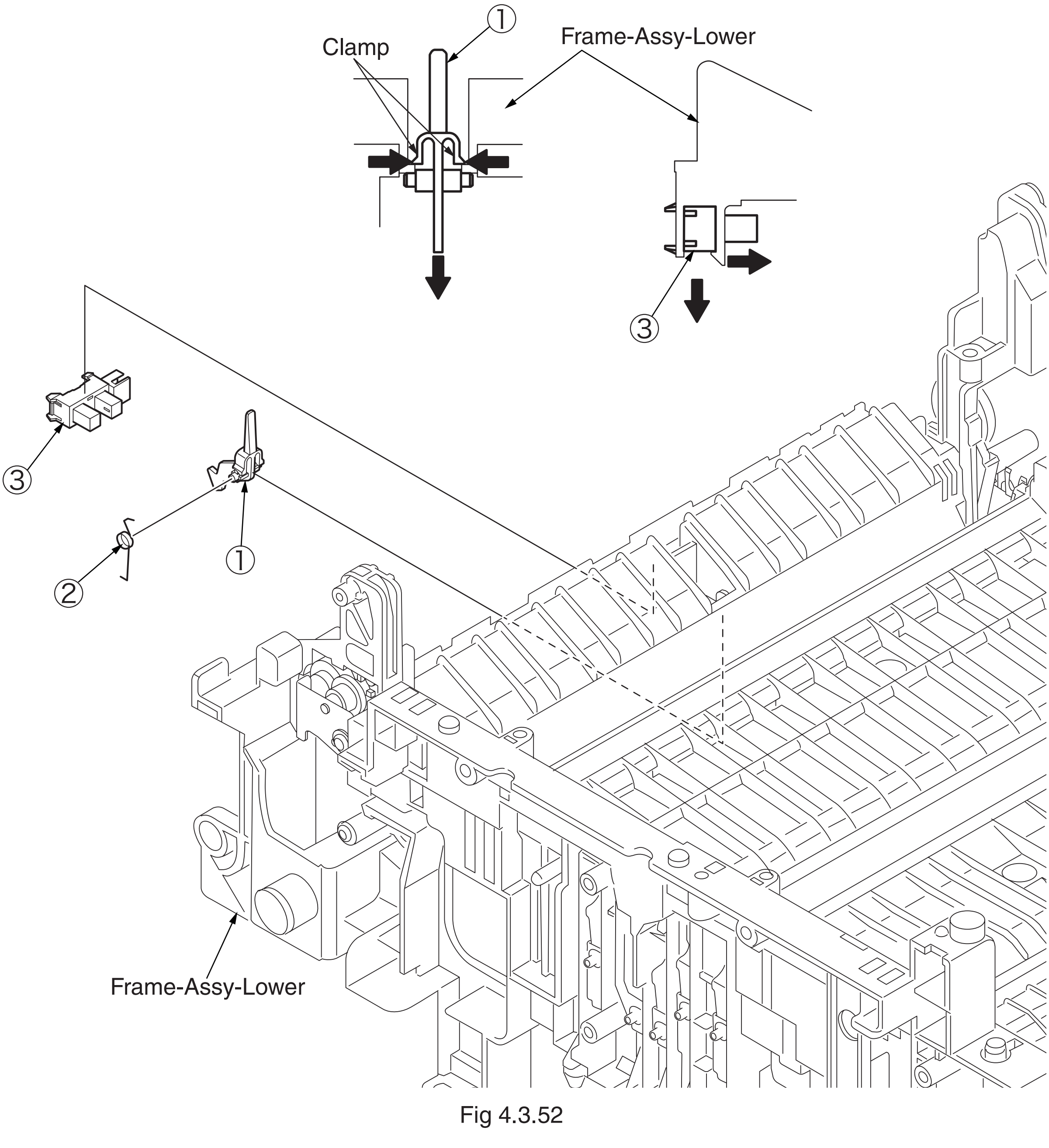


Fig 4.3.52

4.3.3.20 Lever-End/Lever-Duplex/Lever-Cassette/Gear-Assy-Clatch

(1) Remove Frame-Assy-Lower and PCB-Assy. (Refer to 4.3.3.13 / 4.3.3.14)

(2) Press claw Ⓐ by the arrow direction. Remove Holder-SNS ①.

(3) Press the clamp of Lever-End ② by the up direction and then remove it.

(4) Press the clamp of Lever-Duplex ③ by the up direction and then remove it.

(5) Press the clamp of Lever-Cassette ④ by the up direction and then remove it.

(6) Open claw Ⓑ and remove Photo-Interrupter ⑤.

(7) Hold up Plate-Base-Assy ⑥ from the claw of Guide-Cassette-L, Guide-Cassette-R and remove Plate-Base-Assy ⑥.

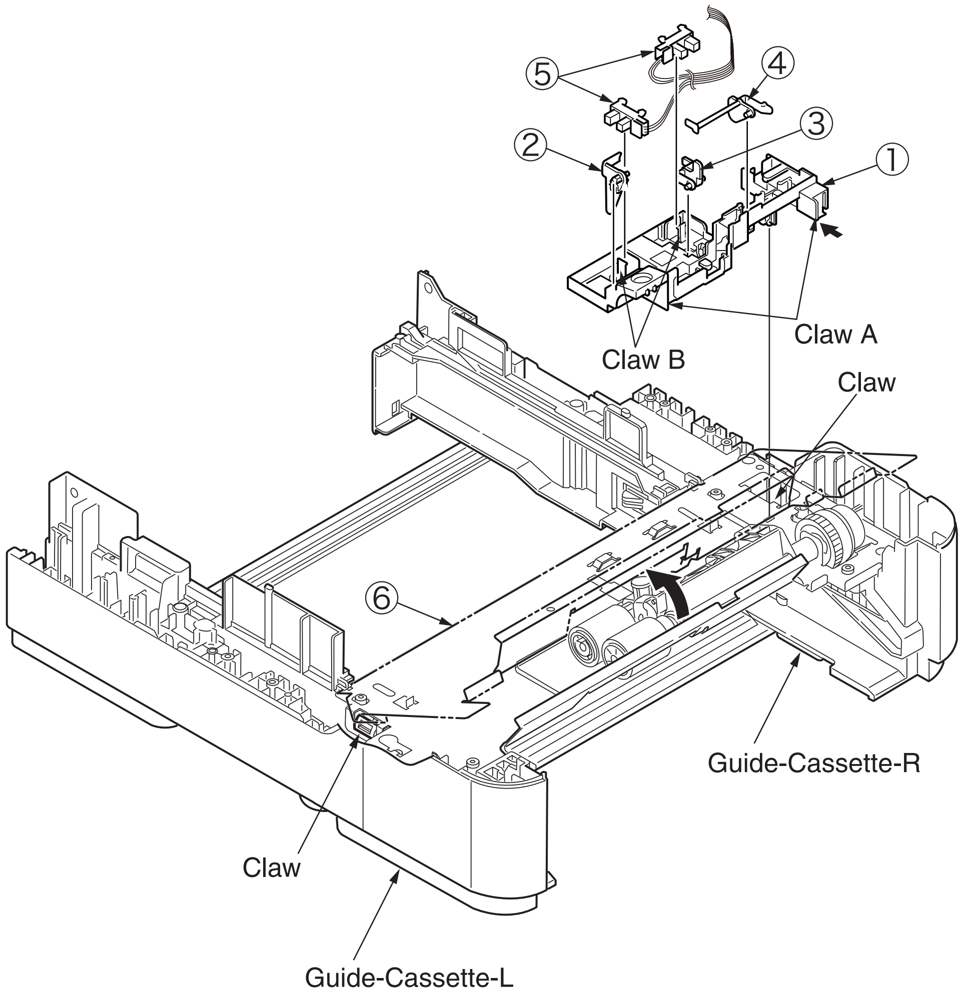


Fig 4.3.53

- Remove Feed-Roller / Clutch.

(8) Press the Claw D by the arrow direction and remove Feed-Roller-NO ⑩.

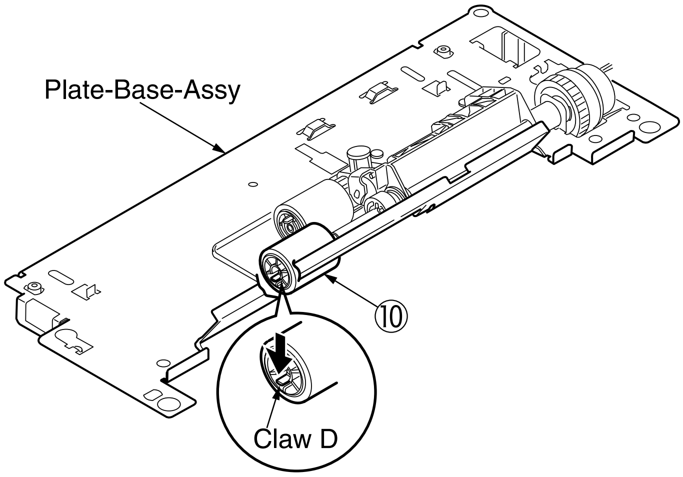


Fig 4.3.54

(9) Remove the 2 of E ring ⑪, Slide Hopping-shaft by the arrow direction and remove Gear-Assy-Clutch ⑫ .

(10) Installing is performed by the inverse procedure with removing.

(Note on removing / installing)

1. Beware of not to touch the DC motor inattentively (Do not rotate motor).

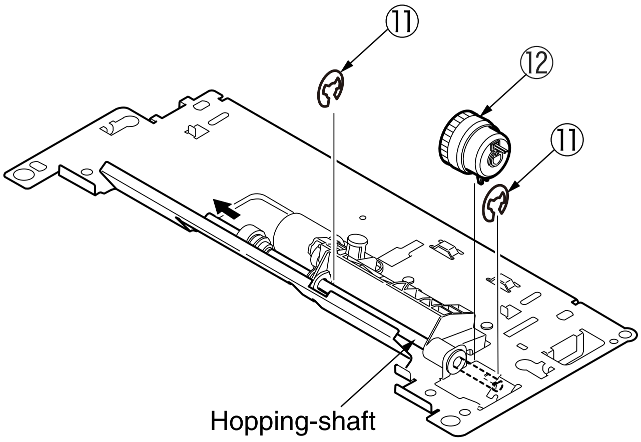


Fig 4.3.55

4.3.3.21 Paper feeding roller (Roller-Pick-Up,Roller-Feed-NOW,Roller-Assy-MPT)

- In the case of Tray 1, Tray (Option)

(1) Shut off the power of Printer. Draw and take off the Paper Cassette of Tray.

(2) Widen the claw of the 2 of Paper feeding roller ① and remove them.

(Note on removing / installing)

1. While install the Paper feeding roller (With Gear : Roller-Pick-Up), be sure to press in it till the setting sound at the deep side shaft can be heard as the confirmation of fixing.
2. While install the Paper feeding roller (Without Gear : Roller-Feed-NOW), be sure to press in it till the setting sound at the front side shaft can be heard as the confirmation of fixing.

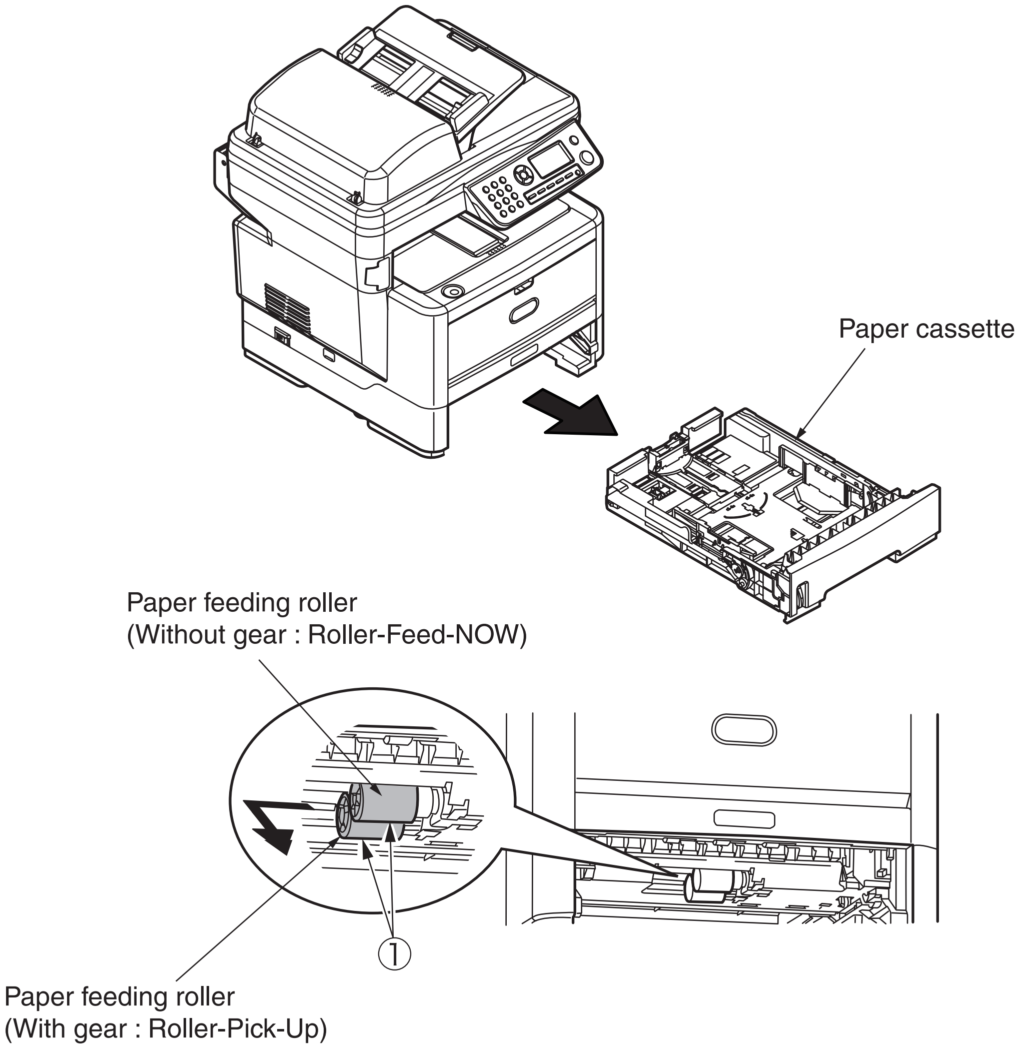

Paper cassette
Paper feeding roller
(Without gear : Roller-Feed-NOW)
①
Paper feeding roller
(With gear : Roller-Pick-Up)

Fig 4.3.56

- In the case of Multi-purpose Tray (MB470,MB480)

(1) Shut off the power of Printer.

(2) Open Multi-purpose Tray, widen paper supporter.

(3) Open the cover of Paper feeding roller of Multi-purpose Tray by up direction. Remove Roller-Assy-MPT ① by rolling it to the near side.

(Note on removing / installing)

1. While install the Paper feeding roller (Roller-Assy-MPT) ①, be sure to press it into the depths of the shaft and confirm whether it is fixed.

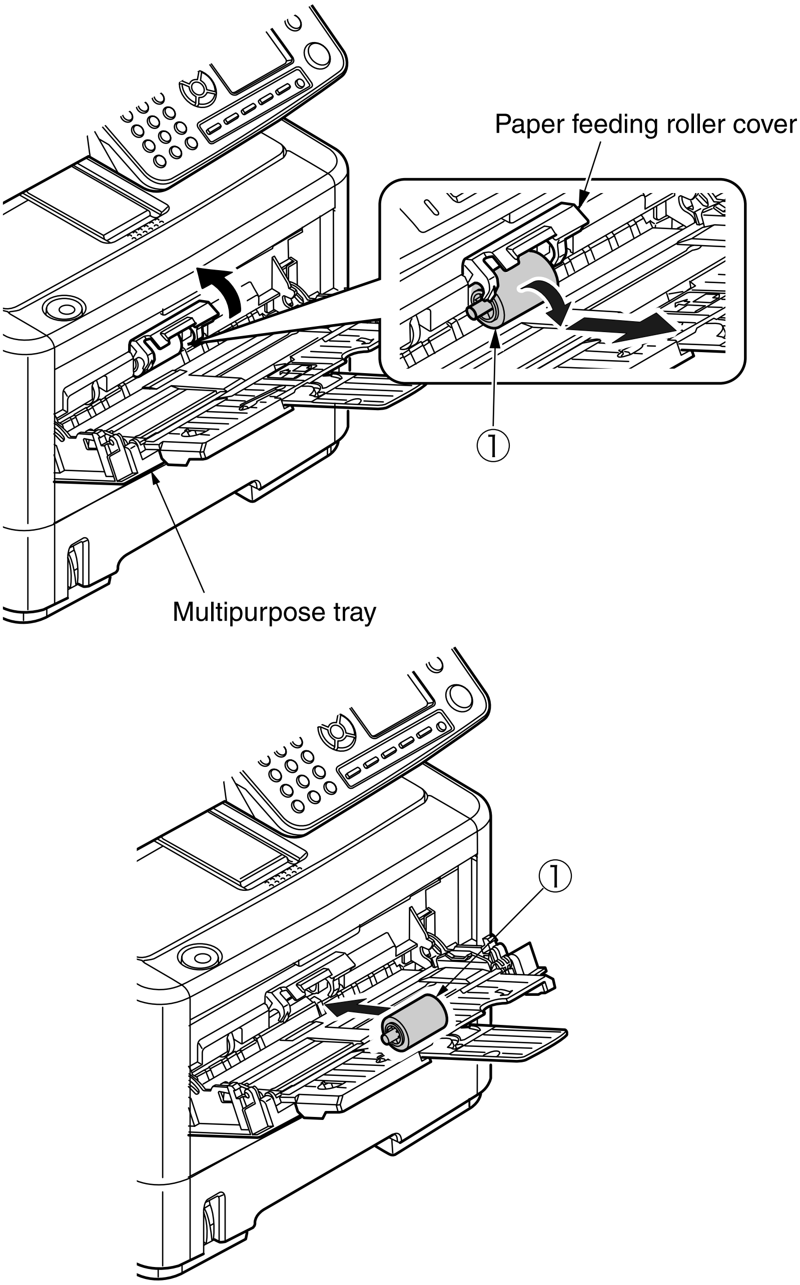


Fig 4.3.57

5. MAINTENANCE MENU

5.1 Maintenance Menu

5.1.1 Boot Menu

To go to Boot Menu, turn on the power while holding down the Right key.
Pressing the Enter key or Left key with the Boot Menu screen displayed opens the password entry screen. After a password is entered, descending menu items appear.
(The factory default password for Boot Menu is ""aaaaaa"".)
Operating the Up key, Down key, Enter key, Left key, or Right key scrolls the menu item screen.
To exit Boot Menu, press the Left key when the Boot Menu screen is displayed.

Table 5.1.1

Item1	Item2	Item3	Value	Default	Function
Boot Menu *Need to enter the password. Default password is "aaaaaa".	Parallel Setup	Parallel	Enable Disable	*	Sets Centronics I/F to Enable or Disable.
		Bi-Direction	Enable Disable	*	Sets bidirectional Centronics to Enable or Disable.
		ECP	Enable Disable	*	Sets the ECP mode to Enable or Disable.
		Ack Width	Narrow Medium Wide	*	Sets the ACK width when receiving compatible data. NARROW = 0.5μs MEDIUM = 1.0μs WIDE= 3.0μs
		Ack/Busy Timing	Ack in Busy Ack while Busy	*	Sets the output order of the BUSY signal and ACK signal when receiving compatible data. ACK IN BUSY: The timing of BUSY=LOW is the same as the end of the ACK pulse. ACK WHILE BUSY: The timing of BUSY=LOW is the center of the ACK pulse.
		I-Prime	3 microseconds 50 microseconds Disable	 *	Sets the ENABLE time/ DISABLE time of I-PRIME signal. 3 microseconds: Enables by nInit signal of 3μs 50 microseconds: Enables by nInit signal of 50μs Only Centro driver is initialized when receiving I-Prime in setting to ENABLE.

Item1	Item2	Item3	Value	Default	Function
Boot Menu *Need to enter the password. Default password is "aaaaaa".	Parallel Setup	Offline Receive	Enable Disable	 *	Sets Enable / Disable of a function keeping the "Ready to Receive" status without changing I/F signal when an alarm occurs. When this setting is enabled, I/F keeps the "Ready to Receive" status when transferring to the offline status by pressing on the operation panel. I/F outputs the BUSY signal only when the receive buffer is full or service calls occur. This menu is not displayed in Non-PS device. (Disable is fixed in Non-PS device.)
	USB Setup	USB	Enable Disable	*	Sets USB I/F to Enable/ Disable.
		Soft Reset	Enable Disable	 *	Sets the Soft Reset command to Enable / Disable. After changing the setting, the printer restarts after exiting the menu.
		Speed	480 Mbps 12 Mbps	*	Sets the maximum transfer speed of USB I/F. After changing the setting, the printer restarts after exiting the menu.
		Serial Number	Enable Disable	*	Specifies Enable/ Disable of the USB serial number. The USB serial number is used to identify a USB device connected to PC. After changing the setting, the printer restarts after exiting the menu.
		Offline Receive	Enable Disable	 *	Sets Enable / Disable of a function keeping the "Ready to Receive" status without changing I/F signal when an alarm occurs. When this setting is enabled, I/F keeps the "Ready to Receive" status when transferring to the offline status by pressing on the operation panel. I/F outputs the BUSY signal only when the receive buffer is full or service calls occur. This menu is not displayed in Non-PS device. (Disable is fixed in Non-PS device.)

Item1	Item2	Item3	Value	Default	Function
Boot Menu *Need to enter the password. Default password is "aaaaaa".	File System Setup	Flash Initialize	Execute	-	Initializes the resident FLASH. The following message is displayed by pressing the Enter switch. Are You Sure? Yes/No When No is selected, the display returns to the original menu. When Yes is selected, the menu is immediately exited, and initialization of the flash is executed after rebooting. 【Conditions for display】 ・"Boot Menu -File System Setup - Initial Lock" is "No"
		Initial Lock	Yes No	*	Sets so as not to change the setting in accordance with the initialization of FLASH. When "Print Statistics->MFP Usage Report" is "Disable", "No" can be set.
	Language Setup	Lang Initialize	Execute	-	Initializes a message file loaded in Flash. The following confirmation message is displayed by the pressing the Enter switch. Are You Sure? Yes/No When No is selected, the display returns to the original menu. When Yes is selected, the menu is immediately exited, and the message is deleted after rebooting.
	Power Setup	Power Save	On Off	*	Sets the power save mode to Enable/ Disable. Transfer time to the power saving mode in Enable is changed by "Menu" - "Admin Setup" - "System Setup" - "Power Save Time".
	SIDM Setup	SIDM Manual ID#	0 ～ 2 ～ 9	*J *E	Sets Pn of MNUAL specification by the CSF control command (ESC EM Pn) in MANUAL-1 ID No.FX/ PPR/ESCP Emu.
		SIDM Manual2 ID#	0 ～ 3 ～ 9	*	Sets Pn of MANUAL specification by the CSF control command (ESC EM Pn) in MANUAL-2 ID No.FX/ PPR Emu
		SIDM MP Tray ID#	0 ～ 4 ～ 9	*	Sets Pn of TRAY0 (MP Tray) by the CSF control command (ESC EM Pn) in MP Tray ID No.FX/ PPR/ESCP Emu.

Item1	Item2	Item3	Value	Default	Function
Boot Menu *Need to enter the password. Default password is "aaaaaa".	SIDM Setup	SIDM Tray1 ID#	0 1 ～ 9	 *	Sets Pn of TRAY1 by the CSF control command (ESC EM Pn) in Tray 1 ID No.FX/PPR/ESCP Emu.
		SIDM Tray2 ID#	0 ～ 2 ～ 5 ～ 9	 *J *E	Sets Pn of TRAY2 by the CSF control command (ESC EM Pn) in Tray 2 ID No.FX/PPR/ESCP Emu. 【Conditions for display】 ·Tray 2 is installed.

5.1.2 System Maintenance Menu

To go to System Maintenance Menu, turn on the power while holding down the asterisk (*) key and the Right key simultaneously.
Pressing the Enter key or Left key with the System Maintenance screen displayed opens the password entry screen. After a password is entered, descending menu items appear.
(The factory default password for System Maintenance Menu is ""000000"".)
Operating the Up key, Down key, Enter key, Left key, or Right key scrolls the menu item screen.
To exit System Maintenance Menu, press the Left key when the System Maintenance screen is displayed.

Table 5.1.2

Item1	Item2	Item3	Value	Default	Function
System Maintenance *Need to enter the password. Default password is "000000".	OKIUSER		ODA OEL APS JP1 JPOEM1 OEMA OEML	*	Sets a destination. JPOEM1: OEM for Japan OEMA: Overseas OEM for A4 default OEML: Overseas OEM for Letter default The device is automatically rebooted after exiting the menu. When there are Japanese fonts, JP1is set as the default..
	Maintenance Menu	Format Flash ROM	Execute	-	Formats Flash ROM. By executing the format, menu is exited, and the format of the flash device installed in the resident (on board) is started. (CAUTION! NIC F/W and Fax F/W will be erazed. See section 7.5.4)
		Reset EEPROM	Execute	-	Returns the settings of EEPROM to the factory default. The device is automatically rebooted after the setting change. * Some special items are not initialized.

Item1	Item2	Item3	Value	Default	Function
System Maintenance *Need to enter the password. Default password is "000000".	Printer Maintenance	Maintenance Print Menu	Enable		Sets whether to display "Print Information"-"Print System Status". If this setting is "Disable", "Engine Status" is not displayed. After changing the setting, the printer restarts after exiting the menu.
			Disable	*	
		Fuse Keep Mode	Execute	-	By pressing the Enter key, a command is issued from CU to PU, and the device becomes Online. Checks the operation after replacing consumables with the power ON. (At this time, since the fuse of new consumables is not cut, the operation count is not added to the old consumables.) The check mode is finished by the power off, and it becomes invalid by the power on next time.
	Personality	IBM PPR	Enable	*E	Changes the default of supported PDL language for each destination. PDL language disabled by the menu is not displayed in EMULATE of the user menu. (Since PCL XL does not have the special menu, the display remains unchanged if setting to DISABLE.) When receiving the print data of the PDL language of DISABLE, INVALID DATA is displayed and received data is discarded. When IBM PPR and EPSON FX are set to ENABLE for Japanese models, its operation is not guaranteed. When ESC/P is set to ENABLE for overseas models, its operation is not guaranteed. PS3 EMU is displayed only when PSE is installed. PCL is not disabled (Always use in ENABLE. Received data processing is performed even when setting to DISABLE). Read only. (T.B.D)
			Disable	*J	
		EPSON FX	Enable	*E	
			Disable	*J	
		ESC/P	Enable	*J	
			Disable	*E	

Item1	Item2	Item3	Value	Default	Function
System Maintenance *Need to enter the password. Default password is "000000".	Dotshift	Tray1	-4.0 mm ～ -1.5 mm -1.0 mm -0.5 mm 0.0 mm +0.5 mm ～ +3.5 mm	*	Sets the horizontal dot shift in printing from Tray1. This area is not initialized in EEPROm RESET of ROM Ver. UP, etc.
		Tray2	-4.0 mm ～ -1.5 mm -1.0 mm -0.5 mm 0.0 mm +0.5 mm ～ +3.5 mm	*	Sets the horizontal dot shift in printing from Tray2. This item is displayed when Tray2 is not installed. This area is not initialized in EEPROm RESET of ROM Ver. UP, etc.
		Manual Feeder	-4.0 mm ～ -1.5 mm -1.0 mm -0.5 mm 0.0 mm +0.5 mm ～ +3.5 mm	*	Sets the horizontal dot shift in printing from Manual Slot. This area is not initialized in EEPROm RESET of ROM Ver. UP, etc. It is displayed only when Manual Feed is installed.
		MP Tray	-4.0 mm ～ -1.5 mm -1.0 mm -0.5 mm 0.0 mm +0.5 mm ～ +3.5 mm	*	Sets the horizontal dot shift in printing from MPT. This area is not initialized in EEPROm RESET of ROM Ver. UP, etc. It is displayed only when MPT is installed.

Item1	Item2	Item3	Value	Default	Function
System Maintenance *Need to enter the password. Default password is "000000".	Rolling ASCII		Execute	-	PRINTING Rolling ASCII continuous printing Continuous printing of the Rolling ASCII pattern is performed for various continuous test (noise test and engine test) in the maker side. "EXECUTE" is displayed on the lower line by pressing "ENTER" switch while the menu is displayed. Then, the execution is determined by the pressing the "ENTER" switch. By pressing the "Start" switch, ASCII continuous printing is started after the initialization. To exit this mode, press the "Start" switch to stop printing, and turn off the power, or press the "CANCEL" switch. After this operation, you can not return to the other maintenance mode.
	Change Password	New Password	******	-	Sets a new password to enter the System Maintenance menu. The input range is 6 digits to 12 digits of lower-case alphanumeric characters.
		Verify Password	******	-	Enter the new password for confirmation to enter the System maintenance menu set in "New Password". The input range is 6 digits to 12 digits of lower-case alphanumeric characters.

5.1.3 Fax Maintenance Menu

To go to Fax Maintenance Menu, turn on the power while holding down the pound (#) key and the Right key simultaneously.
Operating the Up key, Down key, Enter key, Left key, or Right key scrolls the menu item screen.
To exit Fax Maintenance Menu, press the Left key when the Fax Maintenance screen is displayed.

Table 5.1.3

Item1	Item2	Item3	Value	Default	Function
Fax Maintenance	Service Bit		On Off	*	Setting to enable the setting for a service person. The user can not access to it depending on a setting item when this setting is OFF.
	Country Code		U.S.A. International United Kingdom Ireland Norway Sweden Finland Denmark Germany Hungary Czech/Slovakia Poland Switzerland Austria Belgium Netherlands France Portugal Spain Italy Greece Australia New Zealand Singapore Hong Kong Latin America Mexico China Russia Taiwan Japan	-	Selects a country where the printer is installed. The Default is different depending on a destination.
	Tone Send Test		2100 Hz 1850 Hz 1650 Hz 1100 Hz	-	Performs the tone transmission test. Tone is continuously transmitted by selecting each value (pressing Right/Enter key). The tone transmission is stopped by pressing the Left key.

Item1	Item2	Item3	Value	Default	Function
Fax Maintenance	DP Send Test		0 ~ 9 (press the key)	-	Performs DP transmission test. By selecting "MF Send Test"(pressing Right/Enter key), the device is in the wait state by pressing the 0 to 9 key. Each pulse is transmitted by pressing the numeric key. The test is finished by pressing the Left key.
	MF Send Test		0 ~ 9, #, * (press the key)	-	Performs the MF transmission test. By selecting "MF Send Test"(pressing Right/Enter key), the device is in the wait state by pressing the 0 to 9, #, and * key. Each pulse is continuously transmitted by pressing the numeric key. The test is finished by pressing the Left key.
	Modem Signal Send Test		V.34 (33.6Kbps) V.34 (28.8Kbps) V.17 (14.4Kbps) V.17 (12.0Kbps) V.17 (9.6Kbps) V.17 (7.2Kbps) V.29 (9.6Kbps) V.29 (7.2Kbps) V.27 (4.8Kbps) V.27 (2.4Kbps) V.21 (0.3Kbps)	-	Performs the modem signal transmission test. By selecting each value (pressing the Right/Enter key), the modem signal is continuously transmitted. The transmission of the modem signal is stopped by pressing the Left key.
	Ring Signal Test				Performs the ring signal transmission test (Ringing an external phone). There are FX2 (For Japan) and FX3 (For Overseas) for FAX Board. For FX2, Ring Signal Test is required. For FX3, Ring Signal Test is not required.

5.1.4 Print Statistics Menu

To go to Print Statistics Menu, turn on the power while holding down the Up key.
Pressing the Enter key or Left key with the Print Statistics screen displayed opens the password entry screen. After a password is entered, descending menu items appear.
(The factory default password for Print Statistics Menu is ""0000"".)
Operating the Up key, Down key, Enter key, Left key, or Right key scrolls the menu item screen.
To exit Print Statistics Menu, press the left key when the Print Statistics screen is displayed.

Table 5.1.4

Item1	Item2	Item3	Value	Default	Function
Print Statistics *Need to enter the password. Default password is "0000".	MFP Usage Report		Enable Disable	*	Sets MFP Usage Report to Enable/ Disable. When switching, the menu is exited. Inputs a password to enter the print statistics menu. The default is "0000".
	Group Counter		Enable Disable	*	Sets whether to display the group counter in MFP Usage Report Print. Enable: Displayed, Disable:Not displayed 【Conditions for display】 "Print Statistics"-"MFP Usage Report" is "Enable".
	Supplies Report		Enable Disable	*	Sets Display/ Not display of the number of replaces of consumables. When setting to Enable, the maintenance counter is also displayed. 【Conditions for display】 • "Print Statistics"-"MFP Usage Report" is "Enable".
	Reset Main Counter		Execute	*	Resets the main counter. The following screen is displayed. Are You Sure? Yes No If No is selected, the display returns to the original menu. If Yes is selected, the group counter is cleared, and the menu is exited. 【Conditions for display】 • "Print Statistics"-"MFP Usage Report" is "Enable".

Item1	Item2	Item3	Value	Default	Function
Print Statistics *Need to enter the password. Default password is "0000".	Reset Group Counter		Execute	*	Resets the group counter. The following screen is displayed. Are You Sure? Yes No If No is selected, the display returns to the original menu. If Yes is selected, the group counter is cleared, and the menu is exited. 【Conditions for display】 · "Print Statistics"-"MFP Usage Report" is "Enable". · "Print Statistics"-"Group Counter" is "Enable".
	Reset Supplies Counter		Execute	*	Reset the number of replaces of consumables. (Maintenance counter is not reset.) Are You Sure? Yes No If No is selected, the display returns to the original menu. If Yes is selected, the number of replaces of consumables is cleared, and the menu is exited. 【Conditions for display】 · "Print Statistics"-"MFP Usage Report" is "Enable". · "Print Statistics"-"Supplies Report" is "Enable"
	Change Password	New Password	****	-	Sets a new password to enter the "Print Statistics" menu. 【Conditions for display】 · "Print Statistics"-"MFP Usage Report" is "Enable".
		Verify Password	****	-	Enters the new password for confirmation to enter the "Print Statistics" menu set in "New Password".

5.2 Maintenance Utility

By using the maintenance utility you can adjust this machine.
Based on the maintenance utility, users can make adjustments listed in Table 5.2.1.
The details of maintenance utility are as follows.

1) Maintenance utility operating manual : 42678801FU01 Rev.25 or later(Japanese version)
: 42678801FU02 Rev.25 or later(English version)
2) Program of the maintenance utility is as below.
* It is possible to download a program of the maintenance utility.
(Person in charge of the manual, Window Person is available to access.)

Applicable Operating System	File Name	Part Number
Win2000/XP/Vista	MuWin.zip	42678801FW01 Rev.25 or later

Table 5.2.1 Maintenance Utility Adjustment Items

	Item	Adjustment	Section No. of the Maintenance Utility Operation
1	Change the main (86M) circuit board	Rewrite the set value of the EEPROM used of the main circuit board. Purpose of adjustment: if it's necessary to change to other main circuit board in order to change maintenance, users should rewrite the EEPROM data to other main circuit board.	Section 2.4.1.1.5
2	Set the information ofthe serial number	Choose the recorded printer serial number in the EEPROM and change the output mode and serial number of device.	Section 2.4.1.1.6.3
3	Factory/Shipping mode	Switch between factory mode and shipping mode. Purpose of adjustment: if it is impossible to copy the EEPROM (I/F error, etc.), users can make settings of the circuit board changed for maintenance. The default of circuit boards for maintenance is usually set to factory mode, so by this function, setting to shipping mode is necessary.	Section 2.4.1.1.6.4
4	Setting information ofcircuit board items	Confirm the information of serial number and the Factory/Shipping mode.	Section 2.4.1.1.7
5	USB software update	Update the USB software	Section 2.4.2.2.1
6	NIC software update	Update the NIC software	Section 2.4.2.2.2
7	Set the Mac address	Set the Mac address	Section 2.4.2.2.5
8	Scanner software update	Update the scanner software	Section 2.4.1.2.10
9	Fax software update	Update the Fax software	Section 2.4.1.2.11
10	System maintenance	Rewriting set values for the system maintenance.	Section 2.4.1.2.6
11	Engine maintenance	Rewriting set values for the engine maintenance.	Section 2.4.1.2.7
12	Set the information of desired market/PnP	Set and confirm the printer(CU) s desired market, device ID and USB ID.	Section 2.4.1.2.9
13	Engine Test item setting	Setting set values for engine test items.	Section 2.4.2.2.7

	Item	Adjustment	Section No. of the Maintenance Utility Operation
14	FUSE KEEP Mode	Switching to the FUSE KEEP Mode.	Section 2.4.2.2.12
15	Password initialize	Initializing the Administrator menu password.	Section 2.4.2.2.13
16	The function of saving net work log	Save the log files of net work	Section 2.4.2.2.14
17	Send to file	Send the specify files.	Section 2.4.1.2.12
18	Display the consumable counter	Confirm the current value of consumable counter	Section 2.4.1.3.1
19	Confirm the setting value of menus	Display the setting values set in the printer (CU)	Section 2.4.1.3.2
20	Confirm the information of printer	Confirm the Mac address and various Firmware versions of the printer	Section 2.4.1.3.3
21	Confirm the memory value	Confirm the information of memory in the printer(CU)	Section 2.4.1.3.4
22	Test printing	Execute the local printing function and the transmission of specified files.Purpose of adjustment: to confirm the operation of printer unit and the transmission of downloaded files.	Section 2.4.1.4.1

5.3 Variou s printing of the MFP unit with controller

Configuration print

Print the information of program version and composition of the controlling parts.

Operation:

① From the panel menu, select "Menu".
(Press the Down key to go to "Menu" and then press the Right key (or Enter key))
② Select "Print Information".
(Press the Down key to go to "Print Information" and then press the Right key (or Enter key))
③ Select "Configuration".
(Press the Down key to go to "Configuration" and then press the Right key (or Enter key))
④ Be sure that "Execute" is display. Press the Enter key.

Network Information printing

Operation:

① From the panel menu, select "Menu".
(Press the Down key to go to "Menu" and then press the Right key (or Enter key))
② Select "Print Information".
(Press the Down key to go to "Print Information" and then press the Right key (or Enter key))
③ Select "Network Information".
(Press the Down key to go to "Network Information" and then press the Right key (or Enter key))
④ Be sure that "Execute" is display. Press the Enter key.

Demo printing

Print the inside demo pattern in the ROM.

Operation:

① From the panel menu, select "Menu".
(Press the Down key to go to "Menu" and then press the Right key (or Enter key))
② Select "Print Information".
(Press the Down key to go to "Print Information" and then press the Right key (or Enter key))
③ Select "Demo Page".
(Press the Down key to go to "Demo Page" and then press the Right key (or Enter key))
④ Select "DEMO1".
(Press the Down key to go to "DEMO1" and then press the Right key (or Enter key))
⑤ Be sure that "Execute" is display. Press the Enter key.

5.4 Switch pressing function when power supply is turned on

When power supply of printer is turned on, the functions of usable switches are as follows.

(1) key and Right key
Despite of warning/error, always start by online mode (factory support function).

(2) Left key and Stop key
Completely initialize FLASH(resident).
This mode becomes enabled only when a fatal error occurs in the flash file system.

(3) Up key and Stop key
Initialize EEPROM.
This mode becomes enabled only when on error occurs in the EEPROM.

5.5 Settings after Parts Replacement

The necessary adjustments after the parts exchange are explained as follows.

Table 5.5.1

Replaced Part	Adjustment
LED Head	Not required.
Image Drum Cartridge	Not required.
Main (86M Board)	Copy the EEPROM information; utility is required

5.5.1 Notes when exchanging the main circuit board and EEPROM setting after the exchange of 86M circuit board

1. When it is possible to access to the EEPROM of the circuit board to be removed
   (When neither SERVICE CALL 40 [CU EEPROM Error] nor SERVICE CALL 105 [Engine EEPROM Error] is displayed.)
   (1) By using the Board replacement function of the maintenance utility (maintenance utility operation manual, Section 2.4.1.1.5 Board replacement function), retrieve information about the EEPROM from the circuit board that is to be removed, and store the information temporarily in the HDD of PC.
   (2) By using the Board replacement function of the maintenance utility (maintenance utility operation manual, Section 2.4.1.1.5 Board replacement function), copy the information about the EEPROM information stored in the HDD of PC by (1) to the EEPROM of a new circuit board to be installed.

   Note: When using the maintenance utility to get the EEPROM information or writing the information, please set the printer to “forcible ONLINE mode” following the procedures in 5.3.(1), then EEPROM can be accessed.

2. When it is impossible to access to the EEPROM of the circuit board to be removed
   When SERVICE CALL 40 [CU EEPROM Error] or SERVICE CALL 105 [Engine EEPROM Error] is displayed on the status monitor by handling the circuit board to be removed, or when the EEPROM data cannot be read out, perform maintenance with the maintenance utility according to the following procedure after replacing with a new circuit board.

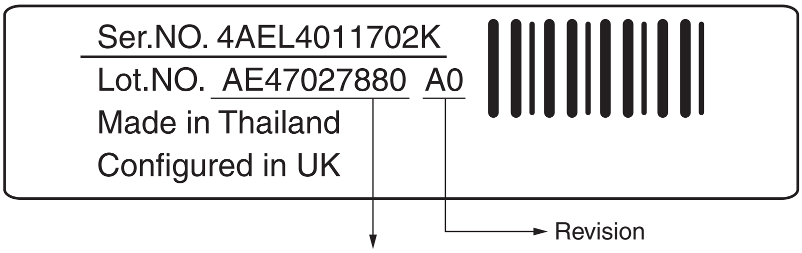
   (1) [When facing OEL]

   (1-1) Set the PU serial number

   (Maintenance utility operation manual, Section 2.4.1.1.6 Board setting)
   SAP serial number can be applied to the device. The SAP serial number is displayed in the highest rung of the serial number label. It is a 12-digit number including production place (2 digits), production year (2 digits), sequence number (6 digits) and revision number (2 digits).

   - PU serial number is a 10-digit number which is basically the same as SAP serial number except that it has no the 2-digit revision number.
   - Set on the menu of [Section 2.4.1.1.6.3 Set the information of the serial number] of [Section 2.4.1.1.6 Board setting].

- If you want to specify the PU serial number, please add a “0” (a normal-width zero) then input the 11-digit number. (Please notice that when read out, the number will be 10 digits.)
  As shown in the following image, on the menu of [PU serial number setting], eliminate the 2-digit revision number then add a normal-width zero to the 10-digit number and input it.



Add one-byte 0 to the top of 10-digit figure of Lot.NO.
Set "0AE47027880" in the setting screen.

Figure of Serial No. label image (labeled in UK Factory)

Fig 5.5.1

- PU serial number will be output to the Printer Serial Number column in the header of Status Page. For this reason, check of PU serial number is performed by printing
  Status Page.
- After the configuration in the UK factory, when facing OEL, the PU serial number is taken as Lot Number and shown in the Lot Number: column of the last line which is in the header of the Status Page.

(1-2) Set the CU serial number

SAP serial number can be applied to the device. The SAP serial number is displayed in the highest rung of the serial number label. It is a 12-digit number including production place (2 digits), production year (2 digits), sequence number (6 digits) and revision number (2 digits).

- CU serial number is given an original number which is within 12 digits in the UK factory.
- Please notice that if you set the CU serial number, the menu setting in CU will be reset (back to the default setting). (For reference, Maintenance utility operation manual)
- On the menu of 2.4.1.1.6.3 Set the information of the serial number] of [Section 2.4.1.1.6 Board setting] , set the [Choose printer serial number] to [CU serial number] and [Output mode] to [Show both].
- If you want to specify the CU serial number, please input the 12-digit number. (When read out, it will be 12 digits, too.)

Input 12 digits for Ser. NO. Input "4AEL4011702K".

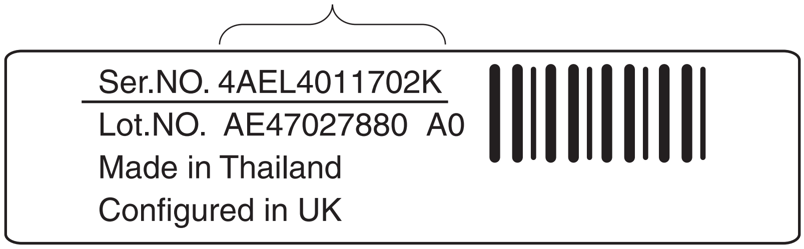


Figure of Serial No. label image (labeled in UK Factory)

Fig 5.5.2

- CU serial number is shown in the Printer Serial Number Column in the header of Status Page. Therefore, the confirmation of the CU serial number after the change can be done by printing the Status Page.
- The PU serial number is shown in the Lot Number: column of the last line which is in the header of the MenuMap.

(2) [When not facing OEL]

(2-1) Set the PU serial number

(Maintenance utility operation manual, Section 2.4.1.1.6 Board setting)
SAP serial number can be applied to the device. The SAP serial number is displayed in the highest rung of the serial number label. It is a 12-digit number including production place (2 digits), production year (2 digits), sequence number (6 digits) and revision number (2 digits).

- PU serial number is a 10-digit number which is basically the same as SAP serial number except that it has no the 2-digit revision number.
- Set on the menu of [Section 2.4.1.1.6.3 Set the information of the serial number] of [Section 2.4.1.1.6 Board setting].
- If you want to specify the PU serial number, please add a “0” (a normal-width zero) then input the 11-digit number. (Please notice that when read out, the number will be 10 digits.)
  As shown in the following image, on the menu of [PU serial number setting], eliminate the 2-digit revision number then add a normal-width zero to the 10-digit number and input it.

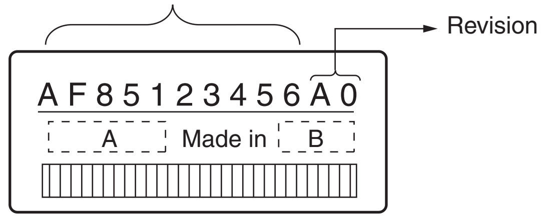

Add one-byte 0 to the top of 10-digit figure of 12-digit SAP serial number to set.
Set "0AE01234567" in the setting screen of PU serial number.

Figure of Serial No. label image

Fig 5.5.3

- PU serial number will be output to the Printer Serial Number column in the header of Status Page. For this reason, check of PU serial number is performed by printing
  Status Page.
- After the configuration in the UK factory, when facing OEL, the PU serial number is taken as Lot Number and shown in the Lot Number: column of the last line which is in the header of the Status Page.

(2-2) Set the CU serial number

CU serial numbe setting is unnecessary When not facing OEL.

(3) To be applied for every model.

(3-1) Switch to shipping mode

When engine control circuit board has been exchanged, it will become factory mode. Therefore you can change it to Shipping Mode.

- Change to the menu of [Section 2.4.1.1.6.4 Factory/Shipping mode] in the [Section 2.4.1.1.6 Board setting] of the maintenance utility.

(3-2) Set the desired market [Method of Confirmation: Status Page printing]

Because the default setting is ODA, the desired market must be set at shipment.

Note! This setting will be stored in the EEPROM of the 86M circuit board.

1. Maintenance circuit board: For international sales/ODA/OEL/APS facing maintenance circuit board, this setting is left as default at shipment.
2. Set the desired market : Set by PJL command or maintenance utility.
3. Explanation : PN286MFP/PN287MFP is a common ROM both for domestic and international markets. When used in devices of different desired markets, it is necessary to set the desired market (the default is ODA facing)
   This setting will be stored in the EEPROM of the 86M circuit board.
   This setting in maintenance circuit board is left as default at shipment, when put in use, this setting will be executed. If the program version is changed, it will return to the initial value.

Note! Because of the EEPROM exchange (engine control circuit board), the life information of ID, etc. has been cleared. Please notice that there may appear some errors in the life management until the following unit exchange is done.

Table 5.5.2

Item	Description	Count Description
Image drum unit	Life counts of image drum units	Values converted on a A4-size-paper basis from numbers of revolutions after installation of new image drum units.
Total number of sheets fed	Printer life count	Total number of sheets fed sheets fed.
Pages	Numbers of pages impressed (images) with image drums	Numbers of pages impressed (images) from installation of new image drum units.

6. PERIODIC MAINTENANCE

6.1 Periodic Replacement Parts

The following parts should be replaced at a specified cycle.
The above mentioned regular parts exchange should be done by users.

Table 6.1.1

Name	Conditions	Cleaning	Remarks
• Toner Cartridge	After printing approx. 3,500 pages	• LED head	Consumables
• Image Drum Cartridge	After printing approx. 25,000 pages See 1.4 (15).		Consumables

Note! After using a normal cartridge, the starter toner cartridge (attached at the printer purchase) can not be used. Use the starter toner cartridge first, and then, use the normal toner after [LOW TONER] is displayed.

6.2 Cleaning

Remove toner powder and dust in the printer inner section. Clean the inside of and the periphery of the printer with the cloth as needed. Clean the printer inner section with the handy cleaner (maintenance tool).

Note! Do not touch the image drum, LED lens array, and LED head terminal.

6.2.1 CLEANING PAGE FUNCTION

The printer has the charging roller cleaning function implemented by the user.
The following shows the procedure in the printer operation panel.

(1) From the panel menu , Select the [Menu] - [Printer Menu] - [Printer Adjust] - [Cleaning] - [Execute] .
(2) Feed a piece of A4 paper in the multi-purpose tray or the manual feeder slot.
(3) Press the "start" Button. (In case of MB470/MB480)
(4) The toner attached with the image drum is transferred on the paper fed, and paper is fed under the condition where the remaining toner is printed. While this processing is in progress, LCD shows the [Print Cleaning Page] message is displayed.
(5) The display on LCD is returned to [Function].

6.3 Cleaning of LED lens array

If the vertical white lines, and white belt (white spot, pale printing) occur in printing as shown below, the LED lens array should be cleaned or the toner cartridge should be replaced.

Note! As for the LED lens array, clean it with soft tissues or soft cloth after eliminating static electricity of a maintenance tool.

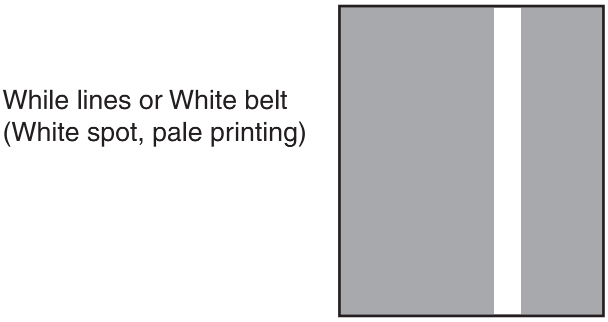


Fig 6.3.1

CLEANING LED HEAD

If there appear line breaks or white lines, or the letters and characters are blurred, please clean your LED head.

(1) Switch off the power supply.

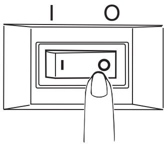


Fig 6.3.2

(2) Lift the scanner.

(3) Press OPEN button and open the top cover.

⚠Caution	Personal injuries may occur.	♨

The fuser unit is extremely hot. Do not touch it.

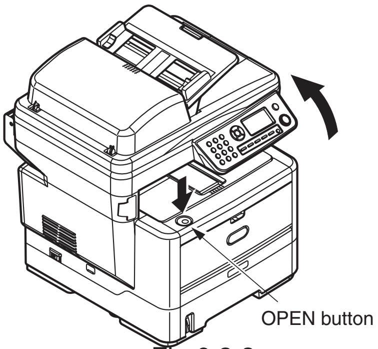


Fig 6.3.3

(4) Lightly wipe the lens (4 points) of the LED head with soft tissues.

Note! Do not use solvents as methyl alcohol or thinner, as they might cause damage to the LED head.

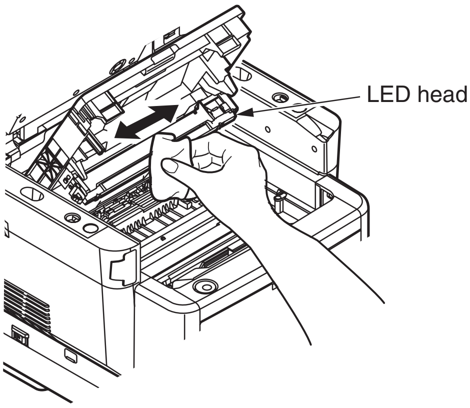


Fig 6.3.4

(5) Close the top cover.

(6) Lower the scanner.

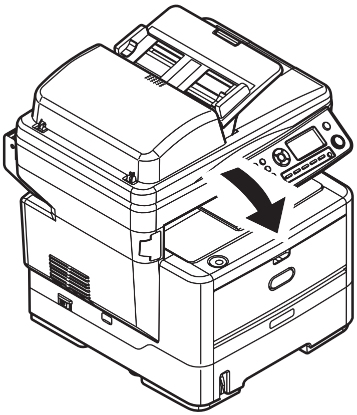


Fig 6.3.5

6.4 Cleaning the pick-up roller

If there appear vertical lines on the printing side, please clean the pick-up roller.

Note! In order not to cause damage to the surface of roller, please use soft cloths to clean it.

CLEANING PAPER FEEDING ROLLER AND PAD

If [391: paper jam] happens frequently, please clean your paper feeding roller and pad.

(1) Draw out the paper cassette.

(2) Get the cloths wet and wring it out. Then use the cloths to wipe paper feeding roller (large) and paper feeding roller (small).

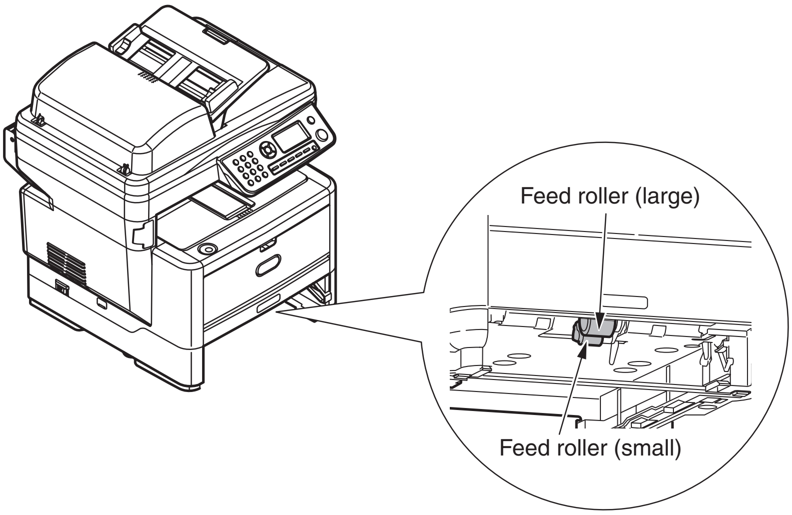


Fig 6.4.1

(3) Get the cloths wet and wring it out. Then use the cloths to wipe the pad part of paper cassette.

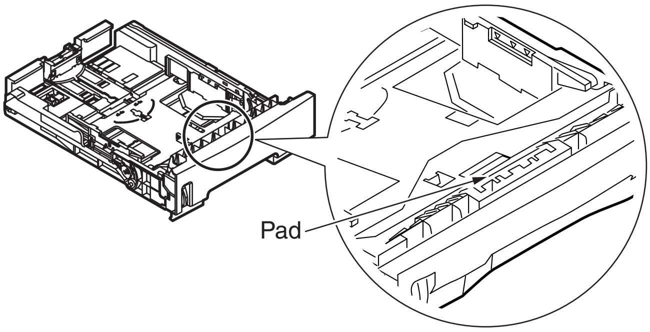


Fig 6.4.2

6.5 Cleaning the inside of the MFP

CLEANING THE INSIDE OF THE MFP

(1) Switch off the power supply.

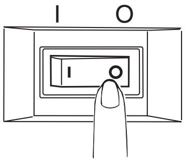


Fig 6.5.1

(2) Lift the scanner.
(3) Press OPEN button and open the top cover.

⚠**Caution**	Personal injuries may occur.	⚠

The fuser unit is extremely hot. Do not touch it.

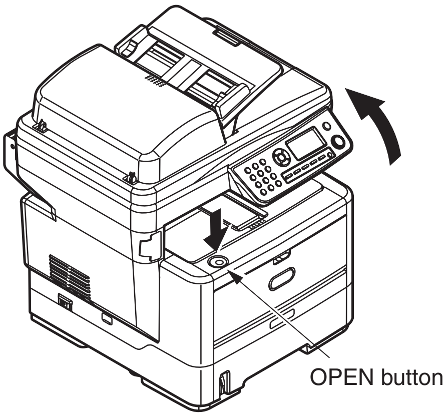


Fig 6.5.2

(4) Take out the image drum cartridge.
   1. Take out the image drum cartridge and put them on a flat surface.
   2. Cover the image drum cartridge with black paper.

Note! • The image drum (the green cylinder) is very easy to be damaged, please be careful when handling it.
• Don’t put the image drum cartridges in direct sunlight or strong light (above1500 lux). And don’t put them in indoor lighting condition for more than 5 minutes.

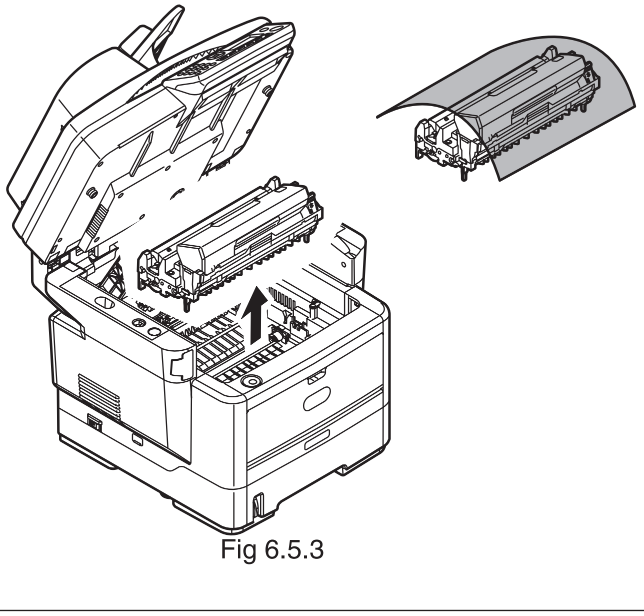


Fig 6.5.3

(5) Get the cloths wet and wring it out. Then use the cloths to wipe any paper dust of the Guide-Paper-R

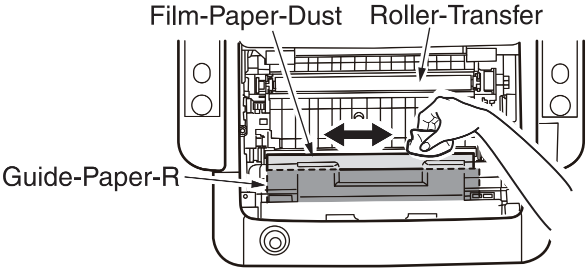

Film-Paper-Dust
Roller-Transfer
Guide-Paper-R

Fig 6.5.4

(6) Gently put the image drum cartridge back into your MFP.
(7) Close the top cover.
(8) Lower the scanner.

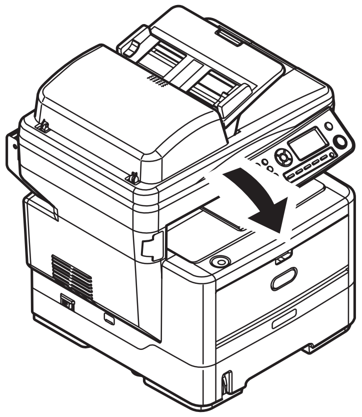


Fig 6.5.5

6.6 Cleaning the papaer path in the ADF

When dirt is found on an image read by the ADF.

(1) Thrn off the power of MFP.

(2) Open the ADF Top cover.

(3) Pinch the ADF lock lever and turn the Kernel Assy up until it is locked.

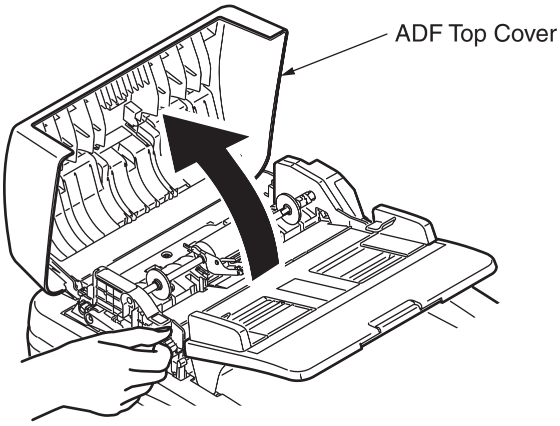

ADF Top Cover

Fig 6.6.1

(4) Using a soft cloth, remove dirt with a sweeping action to the direction of the arrow.

Caution! Do not use benzin, thinner and alcohol.

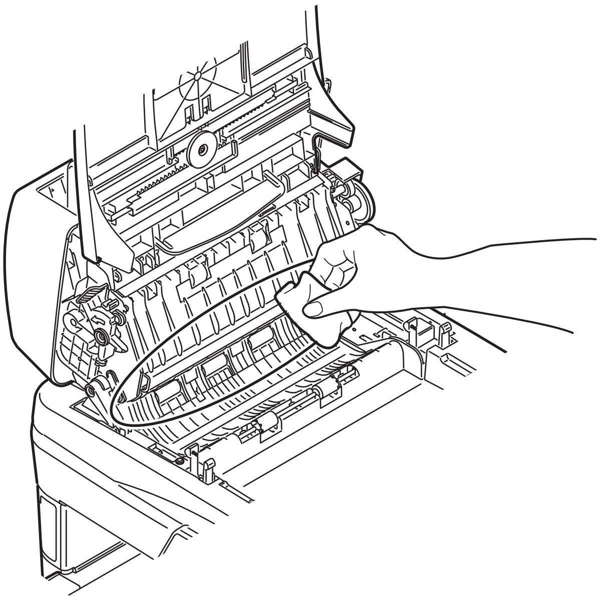


Fig 6.6.2

(5) Get back the Kernel Assy to the initial position.

(6) Close the ADF Top Cover.

6.7 Cleaning the underside of the ADF

When dirt is found on an image read by the ADF.

(1) Open the ADF Doc Lid.

(2) Wipe the A part (transparent) to remove dirt with a soft cloth.

Caution! Do not use benzin, thinner and alcohol.

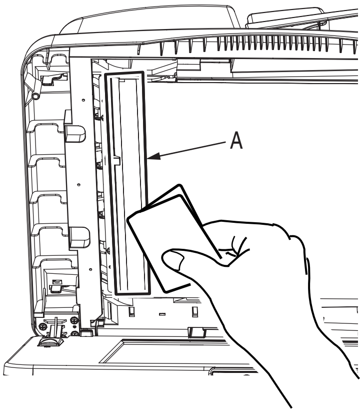


Fig 6.7.1

(3) Close the ADF Doc Lid.

6.8 Cleaning the Flatbed glass.

When dirt is found on an image read by the Flatbed glass.

(1) Open the ADF Doc Lid.

(2) Wipe the Flatbed glass to remove dirt with a soft cloth.

Caution! Do not use benzin, thinner and alcohol.

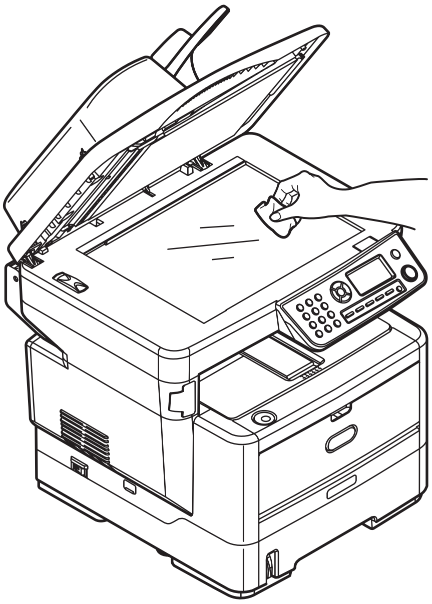


Fig 6.8.1

(3) Close the ADF Doc Lid.

7. TROUBLESHOOTING PROCEDURES

7.1 Precautions prior to repair

(1) Confirm the basic check items indicated in the User's Manual.

(2) Through hearing from the user, obtain information, as far in detail as possible, on the situation concerning the fault.

(3) Inspect the printer in a condition close to the actual situation in which the fault occurred.

7.2 Items to be checked prior to taking action on abnormal images

(1) Check to see if the printer is operated in an adequate environment.

(2) Check to see if the consumables (toner, drum cartridges) are replaced properly.

(3) Check to see if the right paper is used. See the paper specifications.

(4) Check to see if the drum cartridges are installed properly.

7.3 Precautions when taking action on abnormal images

(1) Do not bring your hand or any object in contact with the surface of the OPC drum.

(2) Do not expose the OPC drum to direct sun.

(3) Do not touch the fuser unit, which can be very hot.

(4) Do not expose the image drums to light for over five minutes at the room temperature.

7.4 Preparations for troubleshooting

(1) Display of LCD

The breakdown situation of this machine is display in LCD.

Do an appropriate trouble repair based on information displayed in LCD.

7.5 Troubleshooting method

If a trouble occurs in the printer, search for it by the following procedure:

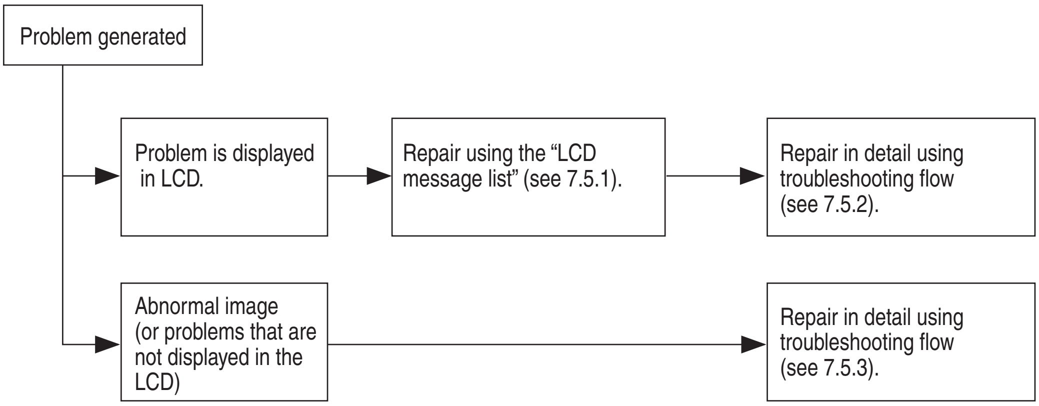

Problem generated
Problem is displayed in LCD.
Repair using the “LCD message list” (see 7.5.1).
Repair in detail using troubleshooting flow (see 7.5.2).
Abnormal image (or problems that are not displayed in the LCD)
Repair in detail using troubleshooting flow (see 7.5.3).

Fig 7.5.1

7.5.1 LCD Message List

(1) Status. Warning. Alarm

(1)-(a) Status during idle mode

The Staus Warning Alarm list is recorded in Table 7.5.1.

Table 7.5.1 Staus Warning Alarm list

No.	Level	Function	Status Message	PJLStatus Code
1	Initializing	This message is displayed before CU F/W booted up after turning on a power supply.	Initializing	-
2	Initializing	The controller side is initializing. "OKI PRINTING SOLUTIONS" Logo is displayed in initializing.	"OKI PRINTING SOLUTION" Bitmap Image	-
3	Initializing	Indicates that EEPROM of the controller side is being reset. The condition that EEPROM is reset includes the followings. ・Changes of CU ROM (when disagreement of CU F/W version is detected) ・Changes of destination channel ・Compulsive initialization of EEPROM (System maintenance menu) ・OEM set of PJL command	EEPROM Reset	-
4	Initializing	RAM checking. The rate of checked capacity to the total capacity is displayed on the 2nd line. If RAM checking is completed, it will change to the display of Sys2.	RAM Check nnn%	-
5	Initializing	Displays that the content of Flash memory is being checked. It is displayed it when Resident/ Option Flash memory not fomented are detected, or "Format Flash ROM" of a system maintenance menu is performed. The function mentioned above is secret to users. Therefore, this status does not occur in a user environment.	Flash Memory Check	-
6	Initializing	Displays that Flash memory is being formatted. It is displayed it when Resident/ Option Flash memory not fomented are detected, or "Format Flash ROM" of a system maintenance menu is performed. The function mentioned above is secret to users. Therefore, this status does not occur in a user environment.	Flash Memory Format	-

No.	Level	Function	Status Message	PJLStatus Code
7	Initializing	Displays that normal Online mode starts. Data (Job) from an external portion is processed even though an error takes place after Online (ready) state once this mode starts. Displays Error or Warning on a panel. If a power supply is turned on as pressing '1' key and Right key, it will enter into this mode. This function is secret to users. Therefore, this status does not occur in a user environment.	Status Mode	-
8	Initializing	Displays that a printer is a special mode to conduct the update of the NIC program (Controller firmware) This mode starts by turning on power with pressing Start switch.	Program Update Mode	-
9	Initializing	The network is in initializing.	Wait a Moment Network Initializing	
10	Initializing	The network is in initializing.	Wait a Moment Network Initializing	30993
11	Initializing	Displays that a printer is a special mode to conduct the update of the NIC program (Controller firmware) This mode starts by turning on power with pressing Start switch.	Program Update Mode	-
12	Initializing	The network is in initializing.	Wait a Moment Data Receive	-
13	Initializing	Displays that the NIC program data to update has been received.	Wait a Moment Data Received OK	-
14	Initializing	Displays that an error takes place while the NIC program data to update is being received. %DLCODE% 1:Size Error 2:Check SUM Error 3:Printer Model No. Error 4:Module I/F Version Error 5:FAT Version Error	Check Data REC Data Error <%DLCODE%>	-
15	Initializing	Displays that the NIC program data to update is being written.	Wait a Moment Data Writing	-
16	Initializing	Displays that the NIC program data to update has been written.	Power Off/On Data Written OK	-

No.	Level	Function	Status Message	PJLStatus Code
17	Initializing	Displays that an error takes place while the NIC program data to update is being written. %DLCODE% 1:Memory alloc Error 2:Download File Error 3:Device Free space acquirement Error 4:Device Free area Shortage Error 5:File Write Error 6:CU-F/W Mismatch Error	Check Data Data Write Error <%DLCODE%>	-
18	Normal	A MFP is in power save mode. Displayed in a combination of other message in the first line.	Power Save	10094
19	Normal	Requests to enter PIN ID.	Enter PIN ◀↲	-
20	Normal	Requests to enter Admin Password for the moving to Admin Menu. After this message display for 3sec., move to Screen Entry for the entering Password.	Enter Password	-
21	Normal	Requests to enter Admin Password for the moving to Boot Menu. After this message display for 3sec., move to Screen Entry for the entering Password.	Enter Password	-
22	Normal	Displays that Access Control is enabled.	Access Control Enabled	10843
23	Normal	Displays that Access Control is disabled.	Access Control Disabled	10844
24	Normal	Displays that the documents on ADF are removing.	Wait a Moment Removing Document	10848
25	Warning	Toner amount is low. In case of MENU"LOW TONER=Continue",	Toner Low Press Start Button	10081(K)
26	Warning	It shows the toner cartridge of authorized 3rd party. (RFID Licensed to 3rd party)	Non OEM Toner Detected Press Start Button	10924(K)
27	Warning	The Region ID of toner cartridge is not proper to the distribution channel.	Toner Regional Mismatch Press Start Button	10954(K)

No.	Level	Function	Status Message	PJLStatus Code
28	Warning	The chip of RFID is not compatible.	Non Genuine Toner Press Start Button	10950(K)
29	Warning	The life of the drum (warning). Displayed in a combination of other message in the first line. The printer stops at the point when it reaches the drum life (Shifts to error,)	Image Drum Near Life Press Start Button	10076(K)
30	Warning	Notifies the toner is empty. This is a warning only. This appears when the cover was opened and closed just after the toner empty error occurred. Also this occurred instead of the toner empty error, if the "TONER EMPTY PRINT CONTINUE" setting was 'ON'.	Toner Empty Press Start Button	10965(K)
31	Warning	Notifies the life of the drum. This is a warning only. This appears when the cover was opened and closed just after the drum life error occurred. Also this occurred instead of the drum life error, if the "DRUM LIFE PRINT CONTINUE" setting was 'ON'. This occurs when toner empty error occurs at the same time.	Image Drum Life Press Start Button	10969(K)
32	Warning	%TRAY%: The tray is empty. Treated as Warning until printing to the empty tray is designated. In this case, Leisus I/F : corresponding bits of both LFTERR and LFTERR2 should be '0'. %TRAY% Tray1 Tray2	%TRAY% Empty Press Start Button	16012 16013
33	Warning	Display that Address Book have no Email address and Group Address data.	Address Book Empty	30945
34	Warning	Display that Phone Book has no Speed Dial and Group Dial data.	Phone Book Empty	30944
35	Warning	Toner cartridge is not installed, or RFID is undetectable although toner cartridge is installed. This is a warning only.	Toner Not Installed Press Start Button	10938 (K)

No.	Level	Function	Status Message	PJLStatus Code
36	Warning	The thing that abnormality is detected in the toner sensor is shown. Operation is possible usually. When the setting of the engine is Factory mode, it is assumed the state of the error. (ERR 163)	Toner Sensor Error Press Start Button	10071
37	Warning	Notifies the life of the drum. This is a warning only. This appears when the cover was opened and closed just after the drum life error occurred. Also this occurred instead of the drum life error, if the "DRUM LIFE PRINT CONTINUE" setting was 'ON'.	Image Drum Life Press Start Button	10060
38	Warning	Display that the Selected Email Addresse no., Group Address no., Speed Dial no. and Group Dial no. wasn't registered of address data. This message is used common Address Book and Phone Book.	Destination Non Entry	-
39	Warning	Display that the Otkey Selected Speed Dial no.wasn't registered of address data.	Destination Non Entry	-
40	Warning	Display that initialization of fax board is failed. Or fax board is not installed.	Fax Firmware Error Service Call Continue Press Start Button	-
41	Error	Rebooting of the controller unit. %CODE% is a decimal value (one digit) and represents the reason to reboot. 0 … Reboot due to a reason other than the followings. 1 … Reboot due to PJLCommand. 2 … Reboot in accordance with a menu change. 3 … Reboot due to quit operator of PostScript Language. 4 … reboot by Network Utility (including Web).	Wait a Moment Rebooting <%CODE%>	-
42	Error	It is shown that a printer is shutting down. Shutdown processing is started with which press SHUTDOWN/RESTART button 4 seconds or more after the completion of initialization processing of a printer.	Shutting down	-

No.	Level	Function	Status Message	PJLStatus Code
43	Error	It is shown that the printer completed shutdown processing. (The backlight of LCD puts out the light)	Turn off power Shutdown OK	-
44	Error	Displays that the entered PIN ID is incorrect.	Incorrect ID	-
45	Error	Displays that the entered password is incorrect.	Incorrect Password	-
46	Error	Displays that the entered password is incorrect.	Incorrect Password	-
47	Error	Displays that CU has the configuration processing (Plug and Play) with scanner unit. If this processing is failed, "Sys36" message is displayed.	Wait a Moment Checking Scanner	30958
48	Error	Displays that scanner unit is disconnected. CU retry to detect scanner unit after Power Off/ On.	Power Off/On Check Scanner Detection Failed	40724
49	Error	When a power supply is switched on, it is shown that a reading sensor cannot read the center position of ADF correctly. If equipment is turned on setting a document to Flatbed, this error will occur. The document of Flatbed is removed and it restores by pushing the Start key.	ADF Center Position Error Please remove a document from Flatbed Press Start Button	40760
50	Error	That ScannerFW downloads went wrong. An error display does not disappear until it re-switches on a power supply.	Power Off/On Scanner FW Download Error	40755
51	Error	Memory capacity overflows due to the following reason. Press Start switch so that it continues. Install expansion RAM or decrease the data amount. - Too much print data in a page. - Too much Macro data. - Too much DLL data. - After frame buffer compres Error:420	Press Start Button for Restoration Memory Overflow	30097
52	Error	Toner ends. Error 413 : Black Warning status takes effect at Cover Open/Close. Select function screen is displayed by pressing Start button.	Install Toner Continue Press Start Button	40028(K)

No.	Level	Function	Status Message	PJLStatus Code
53	Error	The signature ID of toner cartridge is not proper to the distribution channel, but the group of signature ID is proper (OKI regional mismatch). As probable missing to measure the amount of toner, the printer notifies error status and stop printing. Error 557: Black	Toner Regional Mismatch	40947(K)
54	Error	The signature ID of toner cartridge is not proper to the distribution channel, and the group of signature ID is not proper (OEM channel mismatch). Error 617: Black	Incompatible Toner	40910(K)
55	Error	The signature ID of toner cartridge is not proper to the distribution channel, and the group of signature ID is protected (OEM mismatch). Error 623: Black	Incompatible Toner	40906(K)
56	Error	The signature ID of toner cartridge can not be recognized (Unauthorized third party). As probable missing to measure the amount of toner, the printer notifies error status and stop printing. Error 553: Black Four following behavior is carried out by mode of operation. 1.Only warning display .(This error is not displayed). 2.Warning status takes effect at Cover Open/Close. 3.With no automatic concentration compensation . 4.This error is displayed and it stops.	Non Genuine Toner	40943(K)
57	Error	Toner cartridge is not installed, or RFID is undetectable although toner cartridge is installed. Error 613: Black Four following behavior is carried out by mode of operation. 1.Only warning display .(This error is not displayed). 2.Warning status takes effect at Cover Open/Close. 3.With no automatic concentration compensation . 4.This error is displayed and it stops. Select function screen is displayed by pressing Start button.	Toner Not Installed	40902(K)

No.	Level	Function	Status Message	PJLStatus Code
58	Error	One of the following status. -Something is wrong with the toner sensor. -The toner cartridge is not installed. -The toner cartridge lever is not locked. -The image drum is not installed. If the engine setting is Shipping mode, error display appears as this. If the engine setting is Factory mode, Service Call(163) error display appears. Error 543: Black	Check Toner Cartridge Toner Sensor Error	40959(K)
59	Error	Inappropriate size paper was fed from a tray. Check the paper in the tray or check for Multiple-feed. Open and close the cover to perform recovery printing, and continue. In this state, Leisus I/F : OPJAM bit #7 should be '0'. Error:400	Open Upper Cover Paper Size Error	30034
60	Error	Paper jam occurred during paper feeding from Manual Feed Tray. Error 390 : MANUAL * Manual feeder machinery only	Check Manual Feeder Paper Jam	40077
61	Error	Paper jam occurred during paper feeding from MP Tray. Error 390 : MP Tray * MPTray machinery only	Check MP Tray Paper Jam	40077
62	Error	Paper jam occurred during paper feeding from tray. %TRAY% Error 391: Tray1 Error 392 : Tray2	Open Upper Cover Paper Jam %TRAY%	40077
63	Error	Jam has occurred in paper path. Error 380 : Feed Error 381 : Transport Error 382 : Exit	Open Upper Cover Paper Jam	40078 40078 40079
64	Error	Jam has occurred in paper path. Error 389 : Printing Page Lost	Open Upper Cover Paper Jam	40819
65	Error	Jam has occurred nearby DUPLEX unit. Error 372 : Misfeed from Duplex	Open Rear Cover Paper Jam To Recover, See User's Manual	40054

No.	Level	Function	Status Message	PJLStatus Code
66	Error	The life of the image drum (Alarm) Warning status takes effect at Cover Open/Close. Error 353: Black Select function screen is displayed by pressing Start button.	Install New Image Drum Image Drum Life Press Start Button	40996 K)
67	Error	The toner cartridge is not installed. Error 547: Black	Check Toner Cartridge Install New Toner	40914 K)
68	Error	Indicates that the black image drum is not set properly. Error 343: Black	Check Image Drum Drum Missing	40033(K)
69	Error	The cover is open. %COVER% Error 310 : Upper Cover Error 587: Rear Cover	Close Cover %COVER%	40021 40720
70	Error	Indicates that paper feed is unavailable in attempting to print from Tray 1 or Tray2 due to removal of the paper cassette of Tray 1 or Duplex Unit . Conditions for display: This occurs at the following random conditions: 1:OKIDUPLEXUNITEXIST=ON and after the page ejection while printing 2:OKIDUPLEXUNITEXIST=ON and under the condition of online	Install Unit Tray1 or Duplex Unit Open	40715
71	Error	Toner amount is low. Displayed in a combination of other message in the first line. In case of MENU"LOW TONER=STOP," ATTENTION LED blinks and the printer shifts to OFF Line. When an Start button is pushed, or when arbitrary errors occur and the error is canceled, an off-line state is canceled, and printing is continued until it is set to Toner Empty.	Toner Low Press Start Button	10081 K
72	Error	Displays that the document jam occurred during the feeding or scanning.	Open ADF Cover ADF Document Jam	40789
73	Error	Displays that CCD Sensor Unit is locked.	Power Off/On Check Sensor Lock Switch Scanner Sensor Locked	40787
74	Error	Displays that Scanner sensor home position error is occurred.	Power Off/On Home Position Error	40786

No.	Level	Function	Status Message	PJLStatus Code
75	Error	The invalid command was transmitted to the scanner. %CODE% 0x01 - 0x0F %TIMING% Command Container Data Container Response Container	Power Off/On Scanner Invalid Command %TIMING%,%CODE%	40774
76	Error	Invalid container length, protocol type, container type and addition data was transmitted to the scanner. %CODE% 0x01 - 0x0F %TIMING% Command Container Data Container Response Container	Power Off/On Scanner Invalid Value %TIMING%,%CODE%	40773
77	Error	The invalid parameter was set as the command container and it was transmitted to the scanner. %CODE% 0x01 - 0x0F %TIMING% Command Container Data Container Response Container	Power Off/On Scanner Invalid Parameter %TIMING%,%CODE%	40772
78	Error	Invalid data was specified in the data container and it was transmitted to the scanner. %CODE% 0x01 - 0x0F %TIMING% Command Container Data Container Response Container	Power Off/On Scanner Invalid Data %TIMING%,%CODE%	40771
79	Error	By specification that the value of container length is larger than a command container, or small, it was transmitted to the scanner. %CODE% 0x01 - 0x0F %TIMING% Command Container Data Container Response Container	Power Off/On Scanner Invalid Command Length %TIMING%,%CODE%	40770

No.	Level	Function	Status Message	PJLStatus Code
80	Error	It was transmitted to the scanner by specification that the value of container length and addition data length is larger than a data container, or small. %CODE% 0x01 - 0x0F %TIMING% Command Container Data Container Response Container	Power Off/On Scanner Invalid Data Length %TIMING%,%CODE%	40769
81	Error	Transmission and reception of a container were not performed normally. %CODE% 0x01 - 0x0F %TIMING% Command Container Data Container Response Container	Power Off/On Scanner Line Error %TIMING%,%CODE%	40768
82	Error	Displays that scanner control error is occurred.	Power Off/On Scanner Controller Error	40785
83	Error	Displays that Scanner RAM check error is occurred.	Power Off/On Scanner RAM Error	40784
84	Error	Displays that Scanner unit internal error is occurred.	Power Off/On Scanner Unit Error	40782
85	Error	Displays that Scanner Sensor error is occurred.	Power Off/On Scanner Sensor Error	40781
86	Error	Displays that Scanner home sensor error is occurred.	Power Off/On Scanner Home Sensor Error	40780
87	Error	Displays that Scanner Lamp error is occurred.	Power Off/On Scanner Lamp Error	40779
88	Error	Displays that Scanner Fan error is occurred.	Power Off/On Scanner Fan Error	40746
89	Error	The busy state of scanner unit reached the timeout. %n% of LCD message is StatusParameter. 'x' of PJLStatusCode is StatusParameter.	Power Off/On Scanner Timeout Error %n%	4079x

No.	Level	Function	Status Message	PJLStatus Code
90	Error	This appears when the NIC initialization is occurred, as the setting was changed.	Wait a Moment Network Configuration Writing	30956
91	Error	A network error is occurring.	Power Off/On Network Error	30027
92	Error	The printer is receiving the NIC download data.	Wait a Moment Data Receive	40967
93	Error	The printer finished receiving the NIC download data.	Wait a Moment Data Received OK	40967
94	Error	An error has happened while the printer is receive-processing the NIC download data. %DLCODE% 1: File size error 2: Check-sum error 3: Invalid printer model number 4: Invalid module I/F version 5: Invalid FAT version	Check Data REC Data Error <%DLCODE%>	40967
95	Error	The printer is writing the NIC download data.	Wait a Moment Data Writing	40967
96	Error	The printer finished writing the NIC download data.	Power Off/On Data Written OK	40967
97	Error	An error has happened while the printer is writing the NIC download data. %DLCODE% 1: Memory allocation error 2: Download file error 3: Device allocation error 4: No device space 5: File writing failure 6: CU-F/W mismatch	Check Data Data Write Error <%DLCODE%>	40967
98	Fatal	A dew is formed. (Reserved; T.B.D.) * Fatal Error is not available in national language.	Power Off and Wait for a while 126:Condensing Error	-
99	Fatal	A fatal error occurred. * Fatal Error is not available in national language.	Power Off/On nnn:Fatal Error	-
100	Fatal	A fatal error occurred. * Fatal Error is not available in national language.	Service Call nnn:Fatal Error	-

No.	Level	Function	Status Message	PJLStatus Code
101	Fatal	A fatal error occurred. '*' specifies the detailed error cause. * Fatal Error is not available in national language. Fatal 096 231 128 168 169	Service Call nnn:Fatal Error *	-
102	Fatal	A fatal error occurred. 'nnnnnnnn' specifies the detailed error cause. * Fatal Error is not available in national language. Fatal 002~011 F0C F0D FFE FFF	Power Off/On nnn:Fatal Error nnnnnnnn nnnnnnnn nnnnnnnn	-

(1)-(b) Status during execution of functions

Table 7.5.2

No.	Level	Function	Status Message	PJLStatus Code
1	Initializing	Displays that the content of Flash memory is being deleted. Deletion is not conducted unless an explicit specification is implemented in PJL command. The PJL command which eliminates a flash memory is secret to users. Therefore, this status does not occur in a user environment.	Flash Memory Erase	-
2	Initializing	The network is in initializing.	(function name) Wait a Moment Network Initializing	30993
3	Normal	286MFP is copying. ## is the number of pages scanning.	Copy Copying Page: ##	10896
4	Normal	The copy is completed.	Copy Copy OK	10895
5	Normal	286MFP is canceling copy job. This message displayed when the copy is canceled by operator.	Copy Canceling	10894

No.	Level	Function	Status Message	PJLStatus Code
6	Normal	286MFP completed canceling copy job.	Copy Canceled	10893
7	Normal	Registration of Copy was completed.	Copy Activated	10774
8	Normal	Display that the operation of ID Card Copy. Press Start button to continue file saving of the other side. Press Enter Key to complete.	Copy To Scan Another Side, Set Doc. and Press Start Button To Finish, Press Enter Key	-
9	Normal	Un-printed data remains in Buffer. Waiting for data to follow.	Print Data Present	10096
10	Normal	A printer is printing.	Print Printing	10098
11	Normal	Printing Demo Pages	Print Print Demo Page	10017
12	Normal	Printing Menu Maps	Print Print Configuration	10014
13	Normal	Printing Font Lists * PDL Only	Print Print Font	10015
14	Normal	Printing File Lists * PDL Only	Print Print File List	10056
15	Normal	Printing Cleaning Page	Print Print Cleaning Page	10974
16	Normal	Printing Error Logs * PDL Only	Print Print Error Log	10057
17	Normal	Printing ROLLING ASCII	Print Continuous Print	-
18	Normal	Printing MFP Usage Report. It will be not displayed when printing in collate copy mode.	Print Print MFP Usage	10891
19	Normal	Printing Supplies Status Reprt.	Print Print Supplies Status	10890
20	Normal	Printing Scan to Log Report.	Print Print Scan to Log	10889
21	Normal	Printing Fax Activity Report.	Print Print Fax Activity Report	10888
22	Normal	It is shown that a network setup is printing. If menu "Print Information"-"Network Information"-"Execute" is chosen, printing of a network setup will be started.	Print Print Network Config	10942
23	Normal	Collate printing. iii: The number of copy in printing. jjj: the total number of printing. When the total number of printing is 1, it is a normal printing display.	Print Collate Copy iii/jjj	10099
24	Normal	Copy printing. kkk: The number of pages in printing. lll: The total number of printing. When the number of copy is 1, it is a normal printing display.	Print Copy kkk/lll	10099

No.	Level	Function	Status Message	PJLStatus Code
25	Normal	Indicates that job cancelation has been instructed and data is being ignored until the job completion.	Print Canceling	10007
26	Normal	Indicates if JAM occurs when Jam Recover is OFF, that job cancelation has been instructed and data is being ignored until the job completion.	Print Canceling	10007
27	Normal	Indicates a job being canceled due to no print permit. (Related to JobAccount) 1. A job received from a user who is denied printing. 2. A color job received from a user who is denied color printing.	Print Canceling	10007
28	Normal	Indiates that a job is being canceled because the printer area where the logs are stored has been used up and also "Cancel job" is specified as an operation at the time of Log Full. (Related to JobAccount)	Print Canceling	10007
29	Normal	Warming up. In this case, Leisus I/F : STSENG bit #0 should be '0'.	Print Adjusting Temp	10003
30	Normal	Downloading Scanner F/W. This function is secret to users. Therefore, this status does not occur in a user environment.	Scanner Firmware Download	10881
31	Normal	Downloading Fax board F/W. This function is secret to users. Therefore, this status does not occur in a user environment.	Fax Firmware Download	10880
32	Normal	Indicate that a job needs to be canceled because the log storing domain inside 286MFP is drained and "canceling a job" is selected for log full. StatusMessage is not displayed in this state because the status changes to "Canceling" soon. (JobAccount relation)		-
33	Normal	Data receiving, process not started yet. Displayed mainly during PJL process without text print data or during job spooling.	Print Data Arrive	10061
34	Normal	The status showing FILE SYSTEM (HDD/FLASH) is being accessed.	Print File Accessing	10993
35	Normal	Printing Fax Protocol Dump	Print Print Fax Protocol Dump	10779

No.	Level	Function	Status Message	PJLStatus Code
36	Normal	Display that connecting to mail server. nnnnnnnnnn: mail server name or IP address of mail server.	Email Connecting to Server nnnnnnnnnn	10879
37	Normal	Display that Email sending. ##: The number of scanning pages. nnnnnnnnnn: mail server name or IP address of mail server.	Email Sending Page: ## nnnnnnnnnn	10878
38	Normal	Display that Email sending is completed. nnnnnnnnnn: mail server name or IP address of mail server.	Email Sending OK nnnnnnnnnn	10877
39	Normal	Display that connecting to mail server is canceled.	Email Connection Canceled	10876
40	Normal	Display that Email sending is canceling. This message is displayed when the Email sending is canceled by the pressing Stop button.	Email Sending Canceling	10875
41	Normal	Display that Email sending is canceled.	Email Sending Canceled	10874
42	Normal	Display that connecting to LDAP server. nnnnnnnnnn: mail server name or IP address of mail server.	LDAP Connecting to LDAP Server nnnnnnnnnn	10845
43	Normal	Display that searcing addresses by LDAP server.	LDAP Searching Addresses	10873
44	Normal	Display that searcing addresses canceled by the pressing Stop button.	LDAP Canceled Address Search	10872
45	Normal	Registration of Email was completed.	Email Activated	10775
46	Normal	Display that connecting to file server. nnnnnnnnnn: file server name or IP address of file server.	Network PC Connecting to Server nnnnnnnnnn	10869
47	Normal	Display that file sending. ##: The number of scanning pages. nnnnnnnnnn: file server name or IP address of file ser	Network PC Sending Page: ## nnnnnnnnnn	10868
48	Normal	Display that file sending is completed. nnnnnnnnnn: file server name or IP address of file server.	Network PC Sending OK nnnnnnnnnn	10867
49	Normal	Display that connecting to file server is canceled	Network PC Connection Canceled	10866

No.	Level	Function	Status Message	PJLStatus Code
50	Normal	Display that file sending is canceling. This message is displayed when the file sending is canceled by the pressing Stop button.	Network PC Sending Canceling	10865
51	Normal	Display that file sending is canceled.	Network PC Sending Canceled	10864
52	Normal	Display that the operation of Job Build Scan. Press Start button to continue file saving of the other pages. Press Enter Key to complete.	(function name) To Continue, Set Doc. and Press Start Button To Complete, Press Enter Key	10870
53	Normal	Registration of Server was completed.	Network PC Activated	10776
54	Normal	Displays that it is in the state which is waiting for a user to perform a function. A push on the Start key will start Push Scan.	Push Scan Set Doc. and Press Start Button	-
55	Normal	Displays that connecting to PC	Push Scan Connecting to PC	-
56	Normal	Registration of Push Scan was completed.	Push Scan Activated	10778
57	Normal	Indicate that the job needs to be canceled because the log storing domain inside 286MFP is drained and "canceling a job" is selected for log full. StatusMessage is not displayed in this state because the status changes to "Canceling" soon. (JobAccount relation)	-	-
58	Normal	Display that scanning. ##: The number of scanning pages.	(function name) Scanning Page: ##	10863
59	Normal	Display that scanning completed.	Fax Scanning OK	10857
60	Normal	Display that scanning is canceling.	Fax Scan Canceling	10861
61	Normal	Display that scanning is canceled.	Fax Scan Canceled	10860
62	Normal	Display that scanner is warming up. The scanning is started after the completion of warming up.	(function name) Wait a Moment Warming Up	10892

No.	Level	Function	Status Message	PJLStatus Code
63	Normal	Display that the calling for next desitination was waited during Broadcast Fax sending. The calling is started to the next destination after this message displayed for 5sec.	Fax Wait a Moment	10842
64	Normal	Processing Fax data sending	Fax Processing	10836
65	Normal	Under execution of the cancellation processing performed in the midst of having copied reading data to FLASH from RAM.	Fax Canceling	10835
66	Normal	The end of the cancellation processing performed in the midst of having copied reading data to FLASH from RAM.	Fax Canceled	10834
67	Normal	Registration of Fax transmission was completed.	Fax Activated	10833
68	Normal	Fax transmission is connecting.(Manual Tx)	Manual Fax Manual TX Start	10813
69	Normal	Processing Fax data sending	Fax Processing	10816
70	Normal	Display that start fax receiving.	Fax Receiving Start	10851
71	Normal	Display that fax receiving. ##: The number of scanning pages. nnnnnnnnnn is called fax no.	Fax Receiving Page: ## nnnnnnnnnn	10850
72	Normal	Display that fax receiving completed. Page: ## specifies the total pages received. nnnnnnnnnn is called fax no.	Fax Receiving OK Page: ## nnnnnnnnnn	10849
73	Normal	Display that deteced Off Hook of external phone during the telephone calling. Manual Fax receiving is stated by the pressing Start button. This screen is closed by On Hook detection of external phone.	Telephone Fax Receiving Press Start Button	10847
74	Normal	Processing Fax data receiving	Fax Processing	10832
75	Normal	Display that telephone call.	Telephone Please Lift Handset	10790
76	Normal	Display that response telephone.	Telephone Telephone Busy	10791
77	Normal	Display that On Hook or Off Hook.	-	-
78	Normal	Data receiving or output processing	(function name) Processing	10023

No.	Level	Function	Status Message	PJLStatus Code
79	Normal	Display that calling. nnnnnnnnnn is calling fax no.	(function name) Calling nnnnnnnnnn	10856
80	Normal	Display that Fax Modem sending. Page: ## specifies the number of scanning pages. nnnnnnnnnn is sending fax no.	(function name) Sending Page: ## nnnnnnnnnn	10855
81	Normal	Display that Fax Modem sending completed. Page: ## specifies the total pages sent. nnnnnnnnnn is sending fax no.	(function name) Sending OK Page: ## nnnnnnnnnn	10854
82	Normal	Display that the calling canceled by the pressing Stop button.	(function name) Calling Canceled	10853
83	Normal	Display that the Fax Modem sending canceled.	(function name) Sending Canceled	10852
84	Normal	Indicate that the job needs to be canceled because the log storing domain inside 286MFP is drained and "canceling a job" is selected for log full. StatusMessage is not displayed in this state because the status changes to "Canceling" soon. (JobAccount relation)		-
85	Normal	Since the access restrictions by PinID have no Fax Modem transmitting permission, it notifies the necessity of canceling a job. When this status goes up, job cancellation is performed and the status under job cancellation goes up. Therefore, StatusMessage is not displayed at the time of this status. (JobAccount relation)		-
86	Warning	Toner amount is low. In case of MENU"LOW TONER=Continue",	(function name) Toner Low	10081(K)
87	Warning	It shows the toner cartridge of authorized 3rd party. (RFID Licensed to 3rd party)	(function name) Non OEM Toner Detected	10924(K)
88	Warning	The Region ID of toner cartridge is not proper to the distribution channel.	(function name) Toner Regional Mismatch	10954(K)
89	Warning	The chip of RFID is not compatible.	(function name) Non Genuine Toner	10950(K)

No.	Level	Function	Status Message	PJLStatus Code
90	Warning	The life of the drum (warning). Displayed in a combination of other message in the first line. The printer stops at the point when it reaches the drum life (Shifts to error,)	(function name) Image Drum Near Life	10076(K)
91	Warning	Notifies the toner is empty. This is a warning only. This appears when the cover was opened and closed just after the toner empty error occurred. Also this occurred instead of the toner empty error, if the "TONER EMPTY PRINT CONTINUE" setting was 'ON'.	(function name) Toner Empty	10965(K)
92	Warning	The thing that abnormality is detected in the toner sensor is shown. Operation is possible usually. When the setting of the engine is Factory mode, it is assumed the state of the error. (ERR 163)	(function name) Toner Sensor Error	10071
93	Warning	Notifies the life of the drum. This is a warning only. This appears when the cover was opened and closed just after the drum life error occurred. Also this occurred instead of the drum life error, if the "DRUM LIFE PRINT CONTINUE" setting was 'ON'.	(function name) Image Drum Life	10060
94	Warning	Notifies the life of the drum. This is a warning only. This appears when the cover was opened and closed just after the drum life error occurred. Also this occurred instead of the drum life error, if the "DRUM LIFE PRINT CONTINUE" setting was 'ON'. This occurs when toner empty error occurs at the same time.	(function name) Image Drum Life	10969(K)
95	Warning	%TRAY%: The tray is empty. Treated as Warning until printing to the empty tray is designated. In this case, Leisus I/F : corresponding bits of both LFTERR and LFTERR2 should be '0'. %TRAY% Tray1 Tray2 MP Tray	(function name) %TRAY% Empty	16012 16013 16010

No.	Level	Function	Status Message	PJLStatus Code
96	Warning	The tray is empty or Duplex Unit open. Occurs only when OKIDUPLEXUNITEXIST=ON and under the condition of printing	(function name) Tray1 or Duplex Open	10820
97	Warning	The function isn't accepted because log buffer is full and also "Cancel job" is specified as an operation at the time of Log Full. (Related to JobAccount).	Copy Operation Canceled Log Buffer is Full Job Rejected	-
98	Warning	Toner cartridge is not installed, or RFID is undetectable although toner cartridge is installed. This is a warning only.	Copy Toner Not Installed	10938 (K)
99	Warning	Memory overflow was occurred in the collate copy. Stays displayed until the Start key is pressed.	Print Collate Fail:Too Many Pages Press Start Button	40994
100	Warning	Notifies users that jobs have been canceled because they are not permitted for printing. (Related to JobAccount). Stays displayed until the Start button is pressed.	Print Invalid ID. Job Rejected Press Stop Button	10982
101	Warning	Notifies users that jobs have been canceled because the buffer is full. (Related to JobAccount.)Stays displayed until the Start button is pressed.	Print Log Buffer is Full. Job Rejected Press Stop Button	10982
102	Warning	Invalid data was received. Press the Start switch and eliminate the warning. Displayed when unsupported PDL command is received or a spool command is received without HDD. * Except GDI printer * PDL Only	Print Invalid Data Press Start Button	30114
103	Warning	Manual paper feed is required. Manually insert the paper shown by %MEDIA_SIZE%. The unit of paper size in Custom: The unit specified for Manual Feeder (menu setting) is used if no unit is specified by the driver. When the driver specifies a unit, the unit is used for display. Paper size displays in Custom mode: "<width>x<length><unit>" ex.) 210x297mm 8.5x11.0inch * Manual feeder machinery only	Print Install Paper Manual Feeder %MEDIA_SIZE%	411XX

No.	Level	Function	Status Message	PJLStatus Code
104	Warning	Manual paper feed is required. Manually insert the paper shown by %MEDIA_SIZE%. The unit of paper size in Custom: The unit specified for MPTray (menu setting) is used if no unit is specified by the driver. When the driver specifies a unit, the unit is used for display. Paper size displays in Custom mode: "<width>x<length><unit>" ex.) 210x297 MM 8.5x11.0 INCH * MPTray machinery only	Print Install Paper in MP Tray %MEDIA_SIZE% Press Start Button	411XX
105	Warning	A disk error is occurred, which is other than the file system fill or the disk write protected. Operation that does not involve a disk is available. nnn: An identifier to Error type (For details, see the overview chapter.)	Print File System Operation Failed <nnn> Press Start Button	32000 ~ 32026
106	Warning	Disk-full is occurring. Because this is a temporary warning, it remains until the end of the job and disappears.	Print File System is Full Press Start Button	32002
107	Warning	An attempt to write in a read-only file was done. Because this is a temporary warning, it remains until the end of the job and disappears.	Print File System is Write Protected	32026
108	Warning	Interpreter detects an error due to the following reason. Receive data after this is ignored until the job completion. When the job is completely received, this is automatically cleared. - The job has a grammatical error. - The page is complicated, and VM was used up. * PDL Only	Print Error Postscript	40090
109	Warning	The function isn't accepted because log buffer is full. (Related to JobAccount).	Email Operation Canceled Log Buffer is Full Job Rejected	-
110	Warning	Display that the address isn't searched by LDAP Server.	LDAP Retry with other words Address isn't found	30947

No.	Level	Function	Status Message	PJLStatus Code
111	Warning	Display that the serarch results is over the limit values (286MFP is max. 100 addresses). The searched addresses are displayed by the pressing Start button.	LDAP Search Results Exceeded the Limit Continue Press Start Button	10871
112	Warning	Display that Address Book have no Email address and Group Address data.	Address Book Empty	30945
113	Warning	It is shown that the E-mail address is registered to the limit into Address Book.	Email Address Book is Full	30942
114	Warning	Default From(Admin Setup – Scanner Setup – Email Setup) hasn't been registered.	Email Contact Admin. Default From ID is Empty	-
115	Warning	The function isn't accepted because log buffer is full. (Related to JobAccount).	Network PC Operation Canceled Log Buffer is Full Job Rejected	-
116	Warning	Display that Profile setting wasn't entryed.	Profile List Empty	30943
117	Warning	The function isn't accepted because log buffer is full. (Related to JobAccount).	Push Scan Operation Canceled Log Buffer is Full Job Rejected	-
118	Warning	Notifies users that jobs have been canceled because the buffer is full. Stays displayed until the Stop button is pressed. (Related to JobAccount.)	PC Log Buffer is Full. Job Rejected Press Stop Button	10828
119	Warning	The function isn't accepted because log buffer is full. (Related to JobAccount).	Fax Operation Canceled Log Buffer is Full Job Rejected	-
120	Warning	Display that the number of Delayed Fax Sending registration was already full. Fax stand-by screen displayed after the displaying this message for 3sec.	Fax Operation Canceled Registration is Full.	-
121	Warning	Display that the Selected Email Addresse no., Group Address no., Speed Dial no. and Group Dial no. wasn't registered of address data. This message is used common Address Book and Phone Book.	Destination Non Entry	-
122	Warning	Display that Phone Book has no Speed Dial and Group Dial data.	Phone Book Empty	30944

No.	Level	Function	Status Message	PJLStatus Code
123	Warning	Notifies users that jobs have been canceled because the buffer is full. Stays displayed until the Stop button is pressed. (Related to JobAccount.)	PC Fax Log Buffer is Full. Job Rejected Press Stop Button	10829
124	Warning	Notifies users that jobs have been canceled because they are not permitted for Fax Modem Sending. (Related to JobAccount). Stays displayed until the Stop button is pressed.	PC Fax Invalid ID. Job Rejected Press Stop Button	10830
125	Warning	Invalid data was received. Press Stop Button and eliminate the warning.	PC Fax Invalid Data Press Stop Button	10827
126	Error	The entered PIN ID isn't accepted Copy operation.	Copy Contact Admin. Unusable Operation	-
127	Error	(function name)operation isn't accepted because 286MFP is doing the other functions.	(function name) Device Busy	40729
128	Error	The current installed paper size isn't supported for copy function. Copy operation can continue by the pressing Start button. %TRAY% Tray1 Tray2 Manual Feeder MP Tray	Copy Unsupported Size in %TRAY% Continue Press Start Button	4080y
129	Error	In the state where the paper is not set to %TRAY% , when the Start button is pushed, it is displayed. Reading of a document is started by pushing the Start button. By pushing the Stop button, it shifts to a Copy standby screen. When the Start button is pushed in the state where the paper is not set, this message is displayed again. %TRAY% Tray1 Tray2 * MPTray doesn't support	Copy Install Paper in %TRAY% Press Start Button to Continue Press Stop Button to Cancel	406XX
130	Error	Displays that the document jam occurred during the feeding or scanning.	(function name) Open ADF Cover ADF Document Jam	40789

No.	Level	Function	Status Message	PJLStatus Code
131	Error	Displays that CCD Sensor Unit is locked.	(function name) Power Off/On Check Sensor Lock Switch Scanner Sensor Locked Press Left Key	40787
132	Error	Displays that Scanner sensor home position error is occurred.	(function name) Power Off/On Home Position Error Press Left Key	40786
133	Error	Displays that scanner control error is occurred.	(function name) Power Off/On Scanner Controller Error Press Left Key	40785
134	Error	Displays that Scanner RAM check error is occurred.	(function name) Power Off/On Scanner RAM Error Press Left Key	40784
135	Error	Displays that Scanner calibration error is occurred during PC Scanning.	(function name) Power Off/On Scanner Calibration Error Press Left Key	40783
136	Error	Displays that Scanner unit internal error is occurred.	(function name) Power Off/On Scanner Unit Error Press Left Key	40782
137	Error	Displays that Scanner Sensor error is occurred.	(function name) Power Off/On Scanner Sensor Error Press Left Key	40781
138	Error	Displays that Scanner home sensor error is occurred.	(function name) Power Off/On Scanner Home Sensor Error Press Left Key	40780
139	Error	Displays that Scanner Lamp error is occurred.	(function name) Power Off/On Scanner Lamp Error Press Left Key	40779

No.	Level	Function	Status Message	PJLStatus Code
140	Error	Displays the copy operation from Manual Feeder. The scanning is started by Start button pressed. The copy is aborted if Stop button pressed. In ADF copy, this message is displayed after the every pages printed out. * Manual feeder machinery only	Copy Install Paper in Manual Feeder Press Start Button to Continue Press Stop Button to Cancel	40810
141	Error	Displays that the unsupported papers are installed in Trays. When this error occurred during copy, the copy is aborted.	Copy Check Paper Size Paper Size Error Press Stop Button	40776
142	Error	Memory overflow was occurred in the collate copy. Stays displayed until the Stop key is pressed.	Copy Collate Fail:Too Many Pages Press Stop Button	40775
143	Error	Copying request is issued to an empty tray. When this error occurred during copy, the copy is aborted. %TRAY% Error 491: Tray1 Error 492: Tray2	Copy Copy Canceled %TRAY% Paper Empty Press Stop Button	47xyy
144	Error	Printing request is issued to an empty MPTray. When this error occurred during copy, the copy is aborted. Error 490 : MP Tray In this state, Leisus I/F : corresponding bits of both LFTERR and LFTERR2 should be '0'. Programmer's note: When the Start button was pressed, the controller (CU) should send MPTPECLR command to the engine (PU). The engine would clear this state after receiving that command. This error is occurred, when the MPTray is in the home position and the sensor "PE SNS2" cannot detect papers. * MPTray machinery only	Copy Copy Canceled MP Tray Paper Empty Press Stop Button	470XX

No.	Level	Function	Status Message	PJLStatus Code
145	Error	Toner ends. Warning status takes effect at Cover Open/Close. When this error occurred during copy, the copy is aborted. Error 413: Black	(function name) Install Toner	40028(K)
146	Error	The signature ID of toner cartridge is not proper to the distribution channel, but the group of signature ID is proper (OKI regional mismatch). As probable missing to measure the amount of toner, the printer notifies error status and stop printing. Error 557: Black	(function name) Toner Regional Mismatch	40947(K)
147	Error	The signature ID of toner cartridge is not proper to the distribution channel, and the group of signature ID is not proper (OEM channel mismatch). Error 617: Black	(function name) Incompatible Toner	40910(K)
148	Error	The signature ID of toner cartridge is not proper to the distribution channel, and the group of signature ID is protected (OEM mismatch). Error 623: Black	(function name) Incompatible Toner	40906(K)
149	Error	The signature ID of toner cartridge can not be recognized (Unauthorized third party). As probable missing to measure the amount of toner, the printer notifies error status and stop printing. Four following behavior is carried out by mode of operation. 1.Only warning display .(This error is not displayed). 2.Warning status takes effect at Cover Open/Close. 3.With no automatic concentration compensation . 4.This error is displayed and it stops. Error 553: Black	(function name) Non Genuine Toner	40943(K)

No.	Level	Function	Status Message	PJLStatus Code
150	Error	Toner cartridge is not installed, or RFID is undetectable although toner cartridge is installed. Four following behavior is carried out by mode of operation. 1.Only warning display .(This error is not displayed). 2.Warning status takes effect at Cover Open/Close. 3.With no automatic concentration compensation . 4.This error is displayed and it stops. Error 613: Black	(function name) Toner Not Installed	40902(K)
151	Error	One of the following status. -Something is wrong with the toner sensor. -The toner cartridge is not installed. -The toner cartridge lever is not locked. -The image drum is not installed. If the engine setting is Shipping mode, error display appears as this. If the engine setting is Factory mode, Service Call(163) error display appears. Error 543: Black	(function name) Check Toner Cartridge Toner Sensor Error	40959(K)
152	Error	Inappropriate size paper was fed from a tray. Check the paper in the tray or check for Multiple-feed. In this state, Leisus I/F : OPJAM bit #7 should be '0'. When this error occurred during copy, the copy is aborted. Error:400	(function name) Open Upper Cover Paper Size Error	30034
153	Error	Paper jam occurred during paper feeding from Manual Feed Tray. Error 390 : MANUAL * Manual feeder machinery only	(function name) Check Manual Feeder Paper Jam	40077
154	Error	Paper jam occurred during paper feeding from MP Tray. Error 390 : MP Tray * MPTray machinery only	(function name) Check MP Tray Paper Jam	40077
155	Error	Paper jam occurred during paper feeding from tray. When this error occurred during copy, the copy is aborted. %TRAY% Error 391: Tray1 Error 392 : Tray2	(function name) Open Upper Cover Paper Jam %TRAY%	40077

No.	Level	Function	Status Message	PJLStatus Code
156	Error	Jam has occurred in paper path. Error 380 : Feed Error 381 : Transport Error 382 : Exit	(function name) Open Upper Cover Paper Jam	40078 40078 40079
157	Error	Jam has occurred in paper path. Error 389 : Printing Page Lost	(function name) Open Upper Cover Paper Jam	40819
158	Error	The life of the image drum (Alarm) Warning status takes effect at Cover Open/Close. When this error occurred during copy, the copy is aborted. Error 353: Black	(function name) Install New Image Drum Image Drum Life	40996 K)
159	Error	The toner cartridge is not installed. Error 547: Black	(function name) Check Toner Cartridge Install New Toner	40914 K)
160	Error	Indicates that the black image drum is not set properly. Error 343: Black	(function name) Check Image Drum Drum Missing	40033(K)
161	Error	The cover is open. When this error occurred during copy, the copy is aborted. %COVER% Error 310 : Upper Cover Error 587: Rear Cover	(function name) Close Cover %COVER%	40021 40720
162	Error	Indicates that paper feed is unavailable in attempting to print from Tray 1 or Tray2 due to removal of the paper cassette of Tray 1 or Duplex Unit . Conditions for display: This occurs at the following random conditions: 1:OKIDUPLEXUNITEXIST=ON and after the page ejection while printing 2:OKIDUPLEXUNITEXIST=ON and under the condition of online When this error occurred during copy, the copy is aborted.	(function name) Install Unit Tray1 or Duplex Unit Open	40715
163	Error	Indicates removal of the paper cassette of Tray 1 that is a paper path in attempting to print from Tray 2. (Occurs only when OKIDUPLEXUNITEXIST=OFF) When this error occurred during copy, the copy is aborted.	(function name) Copy Canceled Tray1 Open Install Paper Cassette	46002

No.	Level	Function	Status Message	PJLStatus Code
164	Error	Indicates that paper feed is unavailable in attempting to print from Tray 1 due to removal of the paper cassette of Tray 1. (Occurs only when OKIDUPLEXUNITEXIST=OFF) When this error occurred during copy, the copy is aborted. %TRAY% Tray1	Copy Copy Canceled %TRAY% Missing Install Paper Cassette	46012
165	Error	This message is displayed, when a paper installed in Manual Feeder with Paper Supply setting is %TRAY% . The message is displayed until Stop button pressed. Copy Stand-by screen is displayed after Stop button pressed. %TRAY% Tray1 Tray2 * Manual feeder machinery only	Copy Remove Paper Paper Installed in Manual Feeder Press Stop Button	40749
166	Error	Toner amount is low. Displayed in a combination of other message in the first line. In case of MENU"LOW TONER=STOP," ATTENTION LED blinks and the printer shifts to OFF Line. When an Start button is pushed, or when arbitrary errors occur and the error is canceled, an off-line state is canceled, and printing is continued until it is set to Toner Empty.	(function name) Toner Low Press Start Button	10081(K)
167	Error	The error except no-paper occurs while performing the copy. And after the error is restored, it is waiting for a user to press a key. If this error occurs during copy execution, the copy under execution is interrupted.	Copy Copy Canceled Press Stop Button	-
168	Error	No-paper error occurs while performing the copy. And after the paer is supplied, it is waiting for a user to press a key. If this error occurs during copy execution, the copy under execution is interrupted. %TRAY% Error 491: Tray1 Error 492: Tray2 Error	Copy Copy Canceled %TRAY% Paper Empty Press Stop Button	-

No.	Level	Function	Status Message	PJLStatus Code
169	Error	Jam has occurred nearby DUPLEX unit. If this error occurs during copy execution, the copy under execution is interrupted. Error 372 : Misfeed from Duplex	(function name) Open Rear Cover Paper Jam To Recover, See User's Manual	40054
170	Error	In the state where the paper is not set to %TRAY% , when the Start button is pushed, it is displayed. Reading of a document is started by pushing the Start button. By pushing the Stop button, it shifts to a Copy standby screen. When the Start button is pushed in the state where the paper is not set, this message is displayed again. %TRAY% Tray1 Tray2 * MPTray doesn't support	Copy Install Paper in %TRAY% Press Start Button to Continue Press Stop Button to Cancel	45XYY
171	Error	Display that the operation of duplex copy can not be started because of inappropriate paper size.	Copy Invalid Size for Duplex	-
172	Error	This appears during the NIC configuration data is storing into the flash memory, as the setting was changed.	(function name) Wait a Moment Network Configuration Writing	30956
173	Error	Paper feeding is reccomended because the print of back sides(odd number pages) is finished during the Manual Duplex print. Paper is feeded from ManualFeeder.	Print Install Paper %TRAY% Duplex Request	40830

No.	Level	Function	Status Message	PJLStatus Code
174	Error	The media type in the tray and the print data do not match. Load paper in tray (It takes a while until the status disappears after you have closed the tray and the lever lifted.) (%TRAY% TrayName,%MEDIA_SIZE%: PaperName.%MEDIA_TYPE%: MediaTypeName) %TRAY% Error 461 : Tray1 Error 462 : Tray2 Paper size displays in Custom mode: "<width>x<length><unit>" ex.) 210x297MM 8.5x11.0INCH The unit of paper size in Custom: The unit specified for measure (menu setting) is used if no unit is specified by the driver. When the driver specifies a unit, the unit is used for display. As a user pressed Start button, the printer could ignore this error at the just printing job.	Print Change Paper in %TRAY% %MEDIA_SIZE% %MEDIA_TYPE% Press Start Button	48xyy
175	Error	The media type in the MPTray and the print data do not match. Load paper in MPTray (%MEDIA_SIZE%: PaperName.%MEDIA_TYPE%: MediaTypeName) Paper size displays in Custom mode: "<width>x<length><unit>" ex.) 210x297mm 8.5x11.0inch The unit of paper size in Custom: The unit specified for measure is used if no unit is specified by the driver. When the driver specifies a unit, the unit is used for display. Error 460: MP Tray * MPTray machinery only	Print Change Paper in MP Tray %MEDIA_SIZE% %MEDIA_TYPE% Press Start Button	480yy

No.	Level	Function	Status Message	PJLStatus Code
176	Error	The size of paper or media type in the tray does not match the print data. Load paper in tray (It takes a while until the status disappears after you have closed the tray and the lever lifted.) %TRAY% Error 461: Tray1 Error 462: Tray2 Paper size displays in Custom mode: "<width>x<length><unit>" ex.) 210x297MM 8.5x11.0INCH The unit of paper size in Custom: The unit specified for measure (menu setting) is used if no unit is specified by the driver. When the driver specifies a unit, the unit is used for display. As a user pressed Start button, the printer could ignore this error at the just printing job.	Print Change Paper in %TRAY% %MEDIA_SIZE% %MEDIA_TYPE% Press Start Button	48xyy
177	Error	The size of paper or media type in the Manual Feeder does not match the print data. Load paper in MP Tray. Paper size displays in Custom mode: "<width>x<length><unit>" ex.) 210x297MM 8.5x11.0INCH The unit of paper size in Custom: The unit specified for measure (menu setting) is used if no unit is specified by the driver. When the driver specifies a unit, the unit is used for display. Error 460 : MP Tray * MPTray machinery only	Print Change Paper in MP Tray %MEDIA_SIZE% %MEDIA_TYPE% Press Start Button	480yy

No.	Level	Function	Status Message	PJLStatus Code
178	Error	Printing request is issued to an empty tray. Load paper. (It takes a while until the status disappears after you have closed the tray and the lever lifted.) %TRAY% Error 491: Tray1 Error 492: Tray2 The paper size displaying form of the custom mode is the same as above. In this state, Leisus I/F : corresponding bits of both LFTERR and LFTERR2 should be '0' (except MFTray).	Print Install Paper %TRAY% %MEDIA_SIZE%	47xyy
179	Error	Printing request is issued to an empty MPTray. If it goes through a definite period of time (PU firmware holds time(3 sec)) after a user places paper, a printer will lift up the multipurpose tray, and will perform re-feeding. If a user pushes the Start button before timeout, the printer perform also re-feeding,. Error 490 : MPTray In this state, Leisus I/F : corresponding bits of both LFTERR and LFTERR2 should be '0'. Programmer's note: When the ONLINE button was pressed, the controller (CU) should send MPTPECLR command to the engine (PU). The engine would clear this state after receiving that command. This error is occurred, when the MPTray is in the home position and the sensor "PE SNS2" cannot detect papers. * MPTray machinery only	Print Install Paper MP Tray Empty %MEDIA_SIZE% Press Start Button	470XX

No.	Level	Function	Status Message	PJLStatus Code
180	Error	Memory capacity overflows due to the following reason. Press Start Button switch so that it continues.If (Auto Continue) is on, it will automatically continue after 15s. Install expansion RAM or decrease the data amount. - Too much print data in a page. - Too much Macro data. - Too much DLL data. - After frame buffer compress Error:420	Print Press Start Button for Restoration Memory Overflow	30097
181	Error	Indicates that message data to be updated is being processed.	Wait a Moment Message Data Processing	40825
182	Error	Indicates that message data to be updated is being written.	Wait a Moment Message Data Writing	40826
183	Error	Indicates that message data to be updated has been written successfully.	Power Off/On Message Data Received OK	40827
184	Error	Indicates that writing of message data to be uploaded has been failed. %CODE% is a decimal value (one digit) and represents the cause of failure in writing. 1 … Unknown: Cause of failure unknown 2 … DATA_ERROR: Hash check error in data reading/writing, or abnormal FLASH 3 … OVERFLOW: Downloading failure due to FLASH memory full at starting or during writing in a language file 4 … MEMORYFULL: Memory reservation failure 5 … UNSUPPORTED_DATA: Downloading data unsupported on the printer	Check Data Message Data Write Error %CODE%	40828
185	Error	Paper feeding is reccomended because the print of back sides(odd number pages) is finished during the Manual Duplex print. Paper is feeded from %TRAY%.	Print Install Paper %TRAY% Duplex Request Press Start Button	40832 (Tray1) 40833 (Tray2) 40830 (MP Tray)
186	Error	Display that SMTP server setting isn't completed.	Email Check SMTP Address SMTP Address is Empty Press Stop Button	40767

No.	Level	Function	Status Message	PJLStatus Code
187	Error	Display that POP3 server setting isn't completed.	Email Check POP3 Address POP3 Address is Empty Press Stop Button	40766
188	Error	Display that failed to connect with SMTP server.	Email Check SMTP Settings Failed Server Connecton Press Stop Button	40765
189	Error	Display that failed to connect with POP3 server.	Email Check POP3 Settings Failed Server Connection Press Stop Button	40764
190	Error	Display that failed to login in SMTP server.	Email Check Login Name or Password SMTP Login Failed Press Stop Button	40763
191	Error	Display that authentification is unsupported by SMTP server.	Email Contact Network Admin SMTP Auth. Unsupported Press Stop Button	40762
192	Error	Display that failed to login in POP3 server.	Email Check Login Name or Password POP3 Login Failed Press Stop Button	40761
193	Error	Display that Email sending is failed. nnnnnnnnnn: mail server name or IP address of mail server.	Email Sending Failed nnnnnnnnnn Press Stop Button	40727
194	Error	Display that memory overflow is occurred during image processing.	Email Sending Canceled Memory Overflow Press Stop Button	40759
195	Error	Display that LDAP Server connection is failed.	LDAP Check LDAP Settings Failed LDAP Server Connection Press Stop Button	40758

No.	Level	Function	Status Message	PJLStatus Code
196	Error	Display that failed to login in LDAP Server.	LDAP Check ID or Password LDAP Login Failed Press Stop Button	40757
197	Error	Display that failed to communication with LDAP Server.	LDAP Contact Network Admin LDAP Communication Error Press Stop Button	40756
198	Error	Display that the Serarch Root isn't find out in LDAP Server.	LDAP Check Search Root Setting Search Root Error Press Stop Button	40754
199	Error	Display that the search is failed by time-out.	LDAP LDAP Server Busy Address Search Time-out Press Stop Button	40753
200	Error	The entered PIN ID isn't accepted Scan to Email operation.	Email Contact Admin. Unusable Operation	-
201	Error	Display that failed to connect with file server.	Network PC Check Server Setting Failed Server Connection Press Stop Button	40751
202	Error	Display that failed to login in CIFS or FTP server.	Network PC Check ID or Password Server Login Failed Press Stop Button	40750
203	Error	Display that file sending is failed. nnnnnnnnnn: file server name or IP address of file server.	Network PC Sending Failed nnnnnnnnnn Press Stop Button	40719
204	Error	Display that memory overflow is occurred during image processing.	Network PC Sending Canceled Memory Overflow Press Stop Button	40748
205	Error	Display that DHCP server isn't find out. Scan to Server operation is unusable.	(funtion name) Check DHCP Settings Getting IP Address Failed Press Left Key	40812

No.	Level	Function	Status Message	PJLStatus Code
206	Error	Display that failed to connect DNS Server.	(function name) Check DNS Settings Getting Target IP Failed Press Stop Button	40752
207	Error	Display that failed to access in directory of FTP server.	Network PC Contact Server Admin Entering Directory Failed Press Stop Button	40718
208	Error	Display that failed to get file list in the directory of FTP server. The file list is used to check that FTP server have the same file name already.	Network PC Contact Network Admin Getting File List Failed Press Stop Button	40745
209	Error	Displya that the data transfer type can be changed. (FTP Server)	Network PC Contact Network Admin Changing Data Transfer Type Failed Press Stop Button	40744
210	Error	Display that the file writing to FTP Server is failed.	Network PC Contact Network Admin File Writing Failed Press Stop Button	40743
211	Error	Display that the file sending is failed because of FTP Server doesn't have enough free space in strage device.	Network PC Contact Network Admin Storage Space Full Press Stop Button	40742
212	Error	Display that the file sending is failed by the wrong file name. (FTP Server)	Network PC Change File Name File Name Error Press Stop Button	40741
213	Error	Display that CIFS isn't supported by Server.	Network PC Contact Network Admin CIFS Unsupported Press Stop Button	40740
214	Error	Display that failed to connect with CIFS Server due to wrong common folder name of network.	Network PC Check Network Share Name Connecting to CIFS Failed Press Stop Button	40739
215	Error	Display that failed to make image file in CIFS server.	Network PC Contact Network Admin File Writing Failed Press Stop Button	40737

No.	Level	Function	Status Message	PJLStatus Code
216	Error	Display that failed file sending to CIFS Server due to unknown reasons.	Network PC Contact Network Admin Connecting to CIFS Failed Press Stop Button	40736
217	Error	The entered PIN ID isn't accepted Scan to Server operation.	Network PC Contact Admin. Unusable Operation	-
218	Error	Displays that failing to connect to PC. Stays displayed until the Stop key is pressed.	Push Scan Check USB Cable Connect to PC Failed Press Stop Button	40716
219	Error	The entered PIN ID isn't accepted Scan to Email operation.	Push Scan Contact Admin. Unusable Operation	-
220	Error	The entered PIN ID isn't accepted Fax Sending operation.	Fax Contact Admin. Unusable Operation	-
221	Error	While reading a manuscript, it is shown that the buffer in a scanner unit became full. By pushing the Left key, it shifts to a function screen.	(function name) Power Off/On Scanner Memory is Full Press Left Key	40735
222	Error	The invalid command was transmitted to the scanner. By pushing the Left key, it shifts to a function screen. %CODE% 0x01 - 0x0F %TIMING% Command Container Data Container Response Container	(function name) Power Off/On Scanner Invalid Command %TIMING%,%CODE% Press Left Key	40774
223	Error	Invalid container length, protocol type, container type and addition data was transmitted to the scanner. By pushing the Left key, it shifts to a function screen. %CODE% 0x01 - 0x0F %TIMING% Command Container Data Container Response Container	(function name) Power Off/On Scanner Invalid Value %TIMING%,%CODE% Press Left Key	40773

No.	Level	Function	Status Message	PJLStatus Code
224	Error	The invalid parameter was set as the command container and it was transmitted to the scanner. By pushing the Left key, it shifts to a function screen. %CODE% 0x01 - 0x0F %TIMING% Command Container Data Container Response Container	(function name) Power Off/On Scanner Invalid Parameter %TIMING%,%CODE% Press Left Key	40772
225	Error	Invalid data was specified in the data container and it was transmitted to the scanner. By pushing the Left key, it shifts to a function screen. %CODE% 0x01 - 0x0F %TIMING% Command Container Data Container Response Container	(function name) Power Off/On Scanner Invalid Data %TIMING%,%CODE% Press Left Key	40771
226	Error	By specification that the value of container length is larger than a command container, or small, it was transmitted to the scanner. By pushing the Left key, it shifts to a function screen. %CODE% 0x01 - 0x0F %TIMING% Command Container Data Container Response Container	(function name) Power Off/On Scanner Invalid Command Length %TIMING%,%CODE% Press Left Key	40770
227	Error	It was transmitted to the scanner by specification that the value of container length and addition data length is larger than a data container, or small. By pushing the Left key, it shifts to a function screen. %CODE% 0x01 - 0x0F %TIMING% Command Container Data Container Response Container	(function name) Power Off/On Scanner Invalid Data Length %TIMING%,%CODE% Press Left Key	40769

No.	Level	Function	Status Message	PJLStatus Code
228	Error	Transmission and reception of a container were not performed normally. By pushing the Left key, it shifts to a function screen. %CODE% 0x01 - 0x0F %TIMING% Command Container Data Container Response Container	(function name) Power Off/On Scanner Line Error %TIMING%,%CODE% Press Left Key	40768
229	Error	Displays that scanner unit is disconnected. CU retry to detect scanner unit after Poer Off/ On. Select function screen is displayed by pressing Left key.	(function name) Power Off/On Check Scanner Detection Failed Press Left Key	40724
230	Error	Displays that Scanner Fan error is occurred.	Fax Power Off/On Scanner Fan Error Press Left Key	40746
231	Error	The busy state of scanner unit reached the timeout. %n% of LCD message is StatusParameter. 'x' of PJLStatusCode is StatusParameter.	(function name) Power Off/On Scanner Timeout Error %n% Press Left Key	4079x
232	Error	When a power supply is switched on, it is shown that a reading sensor cannot read the center position of ADF correctly. If equipment is turned on setting a document to Flatbed, this error will occur. The document of Flatbed is removed and it restores by pushing the Start key.	(function name) ADF Center Position Error Please remove a document from Flatbed Press Left Key	40760
233	Error	Display that failed fax receiving. The message of Fax-R5 is displayed after displaying this message for 3sec. Page: ## specifies the number of scanning pages. nnnnnnnnnn is called fax no.	Fax Receiving Failed Page: ## nnnnnnnnnn	30954
234	Error	Display that failed fax receiving. This message is displayed until Stop button pressed.	Fax Receiving Failed Press Stop Button	40726

No.	Level	Function	Status Message	PJLStatus Code
235	Error	Display that memory overflow is occurred during fax receiving. The storeed fax received data can be printed out.	Fax Receiving Failed Memory Overflow Press Stop Button	40725
236	Error	Display that Fax board interface error occurred.	PC Fax Power Off/On Fax board I/F Error	40730
237	Error	Display that failed Fax Modem sending. The message of Fax-S32 is displayed after displaying this message for 3sec. Page: ## specifies the number of scanning pages. nnnnnnnnnn is sending fax no.	(function name) Sending Failed Page: ## nnnnnnnnnn	30953
238	Error	Display that failed Fax Modem sending. This message is displayed until Stop button pressed. Page: ## specifies the number of scanning pages. nnnnnnnnnn is sending fax no.	(function name) Sending Failed Press Stop Button	40728
239	Error	Display that Fax firmware wasn't downloaded in Fax board.	(function name) Check Fax Firmware Fax Firmware Error	40811
240	Error	Display that memory overflow is occurred during PC Fax Job receiving. Return to Mode Selection screen by the pressing Stop button.	(function name) Memory Overflow Press Stop Button	40778
241	Error	Display that deteced Off Hook of external phone during Fax stand-by status. Fax stand-by screen is displayed after On Hook detected.	Telephone Wait a Moment	30957

(2) Service Call Error

The service call error list is recording in Table 7.5.3.

Table 7.5.3 service call error list

Display	Cause	Details of error		Method
Service call 001: Error	Machine Check Exception	Is the error message displayed again?	Yes No	If the RAM DIMM is mounted, remove it and turn the power supply Off/On. Replace 86M board Remount RAM DIMM Replace RAM DIMM
Service call 002: Error ≀ 005: Error	CPU Excepption	Is the error message displayed again?	Yes No	If the RAM DIMM is mounted, remove it and turn the power supply Off/On. Replace 86M board Remount RAM DIMM Replace RAM DIMM
Service call 006: Error	Floating-point Unavailable Exception	Is the error message displayed again?	Yes No	If the RAM DIMM is mounted, remove it and turn the power supply Off/On. Replace 86M board Remount RAM DIMM Replace RAM DIMM
Service call 007: Error	Instruction Address Breakpoint Exception	Is the error message displayed again?	Yes No	If the RAM DIMM is mounted, remove it and turn the power supply Off/On. Replace 86M board Remount RAM DIMM Replace RAM DIMM
Service call 020: Error	CU ROM Hash Check Error (resident or ROM slot 1)	Is the error message displayed again?	Yes No	If the RAM DIMM is mounted, remove it and turn the power supply Off/On. Replace 86M board Remount RAM DIMM Replace RAM DIMM
Service call 023: Error	CU Font ROM Hash Check Error (resident)	Is the error message displayed again?	Yes No	If the RAM DIMM is mounted, remove it and turn the power supply Off/On. Replace 86M board Remount RAM DIMM Replace RAM DIMM
Service call 024: Error	CU Font ROM Hash Check Error (slot 1)	Is the error message displayed again?	Yes No	If the RAM DIMM is mounted, remove it and turn the power supply Off/On. Replace 86M board Remount RAM DIMM Replace RAM DIMM
Service call 030: Error	CU RAM Check Error	Is the error message displayed again?	Yes	Power supply Off/On Replace 86M board
Service call 031: Error	CU Optical RAM Check Error	Is RAM DIMM mounted normally? Does it restore by exchanging RAM DIMM?	No Yes No	Remount RAM DIMM Replace RAM DIMM Replace 86M board
Service call 034: Error	RAM Configuration Error			

Display	Cause	Details of error		Method
Service call 040: Error	CU EEPROM Error	Is the error message displayed again?	Yes	Power supply Off/On Replace 86M board
Service call 041:Error	CU Flash Error Flash ROM Error on the CU board	Is the error message displayed again?	Yes	Power supply Off/On Replace 86M board
Service call 042: Error ~ 043: Error	Flash File System Error	It failed to the access to CU Flash ROM that is attached to the 86M board directly.		The compulsive initialization of Flash is done. (Because NIC-Firmware is deleted, please be careful to it. After initialization, it is necessary to write NIC-Firmware by the maintenance utility).FLASH FORMAT is executed by using the maintenance utility.If the symptom doesn't change, replace the 86M board.
Service call 045: Error	Flash File System Recovery Failed	Is the error message displayed again?	Yes	Power supply Off/On Replace 86M board
Service call 048: Error	PS Protection	A PS ROM was installed in the Non-PS device. In MB470/MB480, the same error can occur when the LED Head is missing. Is the LED Head connected properly?	No Yes	Replace 86M board Reconnect correctry Replace 86M board
Service call 063: Error	PCI Driver Open error	Is the error message displayed again?	Yes	Power supply Off/On Replace 86M board
Service call 065: Error	NIC Combination Error			Replace 86M board
Service call 066: Error	FAX Combination Error	Is FX-5 board used?	No	use FX-5 board.
Service call 070: Error	PostScript Internal Error	Is the error message displayed again?	Yes	Power supply Off/On Replace 86M board
Service call 072: Error	Engine I/F Error I/F Error between PU and CU			Replace 86M board
Service call 073: Error	Video Error When the image data sprads, defect is detected. (Incorrect data receive)	Does the error recur?	Yes	Change the PC to high spec or lower the resolution, and then print again. Replace 86M board

Display	Cause	Details of error		Method
Service call 074: Error 075: Error	Video Error When the image data spreads, defect is detected.			Replace 86M board
Service call 081: Error	Difference between version of CU firm and EEPROM	Does the error recur?	Yes	Do EEPROM Initialization. (Turn on the power supply by Cover-open & pressing START key & pressing CANCEL switch). Because the Mac address will disappear with this initialization, lease reset Mac address by using the maintenance utility. Replace 86M board
Service call 104: Error	EngineEEPROM mounting check is OK with turning on the power supply, after that, lead/light error is detected	Does the error recur?	Yes	Power supply Off/On Replace 86M board
Service call 105: Error	Engine EEPROM mounting check error when the power supply is turned on.	Does the error recur?	Yes	Power supply Off/On Replace 86M board
Service call 106: Error	The engine control logic is abnormal	Does the error recur?	Yes	Power supply Off/On Replace 86M board
Service call 120: Error	86M Board Fan Motor Error			refer to 7.5.2 ⑥
Service call 121: Error	High-voltage power supply I/F error	Is the cable between 86M board and the high-voltage power supply unit correctly connected? Isn't there defective contact point?	No Yes No	Reconnect correctly. Check the defective contact point of high-voltage system. Replace the high voltage power supply.
Service call 122: Error	Power Supply Fan Motor Error			
Service call 123: Error	Environmental humidity abnormal/ humidity sensor disconnection	Is the cable between the 86M board and the high-voltage power supply unit correctly connected?	No Yes	Reconnect correctly. Replace the high-voltage power supply.
Service call 124: Error	Environmental temperature abnormality	Does the error recur?	Yes	Power supply Off/On ① Check the connector connection of Thermistor. ② Replace Thermistor or 86M board.

Display	Cause	Details of error		Method
Service call 126: Error	The dewy of the device is detected	Dew condensation occurs easily after the device is carried in from outside. After leaving it at room temperature for 2 hours to half a day, turn on the power again. Does the error recur?	Yes	Turn on the power again after leaving the device for hours. Replace the high-voltage power supply.
Service call 134: Error	LED head detection abnormality	Is the LED head installed correctly? Does LED HEAD FUSE cut? Does the error recur?	No Yes Yes No Yes	Install the LED head correctly Check LED HEAD FUSE Replace FUSE Turn on the power supply gain Replace the LED head unit Please refer to chapter 7.6 for replace method of FUSE Replace 86M board
Service call 153: Error	Defective fuse cutting of ID unit	Is the ID unit installed correctly? Does the error recur? Does the error recur?	No Yes Yes	Installed ID unit again Turn on the power supply again Replace 86M board after check the connector connection of high voltage power supply. Replace 86M board.
Service call 163: Error	Defective toner sensor detection. It does not occur during shipping setting	Is the toner cartridge installed? Is the lock level of toner set? Does the error recur? Does the error recur? Does the error recur?	No No Yes Yes Yes	Install a toner cartridge. Turn the lock lever of toner cartridge to the fixed position. Remove the right side cover, take measures to prevent the right side of the device from being exposed to ambient light, and confirm that the toner sensor is lighted during initialization of the device. Reconfirm it after replacing the toner sensor Assy. Replace the 86M board.
Service call 167: Error	Thermistor Slope Error	Is the error message displayed? Does the error recur?	Yes Yes	Turn on the power supply again Turn on the power supply again after storage for 30 minutes.
Service call 168: Error	Compensation. Thermistor Error	Is the error message displayed? Does the error recur?	Yes Yes	Turn on the power supply again Turn on the power supply again after storage for 30 minutes. Note)
Service call 169: Error	Upper Side Thermistor Error	Is the error message displayed? Does the error recur?	Yes Yes	Turn on the power supply again Turn on the power supply again after storage for 30 minutes.
Service call 170: Error 171: Error	Thermistor Short circuit / Open circuit of the fuser is detected			refer to 7.5.2 ④
Service call 172: Error 173: Error	Thermistor Temperature abnormality (high or low) of the fuser is detected			refer to 7.5.2 ④

Display	Cause	Details of error		Method
Service call 174: Error	The short circuit of the backup roller. Thermistor is detected. (For the high temperature)			refer to 7.5.2 ④
Service call 175: Error	The open circuit of the backup roller. Thermistor is detected. (For the low temperature)			refer to 7.5.2 ④
Service call 176: Error 177: Error	Temperature abnormality (high or low) of the backup roller thermistor was detected			refer to 7.5.2 ④
Service call 182: Error	Tray2 Unit I/F Error			refer to 7.5.2 ⑤
Service call 190: Error	System memory overflow	Does the error recur?	Yes	Turn on the power supply again. Install an additional RAM DIMM.
Service call 200: Error 201: Error 202: Error	PU Firmware Download Error	Error occurs when the PU firmware is rewritten		After the power supply is turned on again, try to download again. (Because this processing is not performed during usual operation, it does not occur.)
Service call 209: Down Load Error	Custom Media Type table download failure	Failed in downloarding Custom Media Type Table		After the power supply is turned on again, try to download again. (Because this processing is not performed during usual operation, it does not occur.)
Service call 203: Error 204: Error 207: Error 208: Error 213: Error 214: Error F0C: Error FFE: Error FFF: Error	CU program trouble (203~214 are not generated in usual operation)	Incorrect processing is performed by the CU program. Does the error recur?		Turn on the power supply again. Replace 86M board.
Service call 230: Error	TONER Reader not Installed	TONER reader Device error. Does the error recur?	Yes Yes	Check the connector connection of CN3 on the high voltage power supply. Replace the 86M board after check the connector connection of HVIF on the 86M board.

Display	Cause	Details of error		Method
Service call 231: Error	TONER Reader I/F Error	TONER reader I/F error. Does the error recur?	Yes Yes	Check the connector connection of CN3 on the high voltage power supply. Replace the 86M board after check the connector connection of HVIF on the 86M board.
Service call 240: Error	Engine Program. Memory Error	240: Flash Memory Hardware Error		If the error occurs again after returning on the power supply, replace the board of the unit.
Service call 905: Error 906: Error	Short circuit error of the Frame thermistor (thermistor defect) is detected	Does the error recur?	Yes	Turn on the power again. Replace the fuser unit. Replace the 86M board.
Service call 907: Error	High temperature error of the frame thermistor (over 150)is detected	Does the error recur?	Yes	Turn on the power again. Replace the fuser unit.Replace the 86M board.
Service call 908: Error	Low temperature error of the Frame thermistor (lower than [environment temperature -10]) is detected	Does the error recur?	Yes	Turn on the power again. Replace the fuser unit. Replace the 86M board.
Service call 918: Error	Duplex Fan-0 Alarm Detection			
923: Error	Image Drum Lock Error	The ID motor does not rotate correctly. Is the error message displayed when the power is turned on again?	Yes Yes	Check if the ID unit is set correctly. Replace the ID unit. Replace the ID motor.
Service call 928: Error	Fuser Motor Lock Error			
Service call 980: Error	Media coiling error to the fuser	Media is coiled to the fuser		Turn Off the power supply. Replace the fuser.

Display	Cause	Details of error		Method
Service call 981: Error	Difference between PU model version detected and CU model version detected	Does the error recur?	Yes	Turn Off/On the power supply. Replace the 86M board.
	High-voltage power supply I/F error when initializing	Is the cable between 86M board and the high-voltage power supply unit correctly connected? Isn't there defective contact point?	No Yes No	Reconnect correctly.Check the defective contact point of high-voltage system. Replace the high voltage power supply.
	86M board SRAM error	Does the error recur?	Yes	Turn Off the power supply again Replace the 86M board
	CRC check error of PU download data	After PU data is downloaded (PU fireware, custom media data, head correction data), CRC check error is detected.		After the power supply is turned on again, try to download again. (Because this processing is not performed during usual operation, it does not occur.)
	86M board Flash ROM hash check error	Does the error recur?	Yes	Turn on the power supply again Replace the 86M board
Service call 981: Error	86M board Flash ROM writing error	Does the error recur?		After the power supply is turned on again, try to download again. (Because this processing is not performed during usual operation, it does not occur.)
	The communication error with ASIC on the CU board is detected			Replace the 86M board.

Note! Because service call 168 error ,171 error and 175 error may occur when the temperature of printer is below zero, please restart the printer after making it warm when the temperature of printer is low.

7.5.2 LCD Message Troubleshooting

If you still have trouble even after using the LCD Status Message/ Trouble List, follow the troubleshooting flowchart displayed below to solve the trouble.

Tablez7.5.4

No.	Trouble	Flowchart No.
1.	The MFP does not work normally after tuning on the power.	①
2.	Jam Alert ├ Paper feed jam ├ Paper path jam └ Paper ejection jam	 ②-1 ②-2 ②-3
3.	Paper size error	③
4.	Fuser unit error	④
5.	SSIO (Synchronized serial input and output) between Printer and Option Tray (Second Tray unit) Error interface time out (No response)	⑤
6.	Fan error	⑥

① The case where the MFP does not work normally after tuning on the power

- Turn off the power and then, turn on the power again.

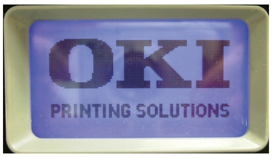


Fig 7.5.1

- Is the "OKI" logo displayed?
  - NO Is the AC cord properly connected?
    - NO Connect the AC cord.
  - Yes Is the cable to connect the main board with the low-voltage power correctly connected?
    - No Connect the cable.
  - Yes Is +5V supplied to the main board?

    (Check with 18 pins and 35 pins of CENT connector)
    - No Do+5V of the main board and GND short out?

      (Check with 18 pins and 35 pins of CENT connector)

      No Replace the low-voltage power.
    - Yes Replace the main board.
  - Yes Is the cable to connect the main board with the scanner unit correctiy connected?
    - No Connect the scanner cable appropriately.
  - Yes Replace the scanner unit.
  - Has the problem been solved?
    - No Replace the main board.
  - Yes Completed
- Yes Is the message of "INITIALIZING" displayed on the LCD?
  - No Replace the main board.
- Yes Is the message of "FUNCTION" is displayed on the LCD?

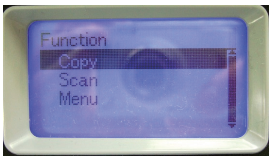


Fig 7.5.2

  - No Take action according to the LCD status message/ Trouble List. (Refer to the Section 7.5.1 for how to take action.)
- Yes Completed.

Error number and jam location at paper jam

Table 7.5.5

Name	Reference	Corresponding	Jam release method
Tray1 paper feed jam	J1	IN	Jam release method ①
Tray2 paper feed jam	J2	IN	Jam release method ①
Manual/MPT paper feed jam	J3	IN	Jam release method ②
Paper transport jam	J4	WR	Jam release method ③
Paper transport jam	J5	WR , OUT	Jam release method ③
Paper size error	J6	WR , IN	Jam release method ③
Paper transport jam	J7	IN , WR	Jam release method ③
Exit (paper eject jam)	J8	WR , OUT	Jam release method ③
Exit (paper eject jam (operating))	J9	EXIT	Jam release method ④
Duplex paper feed jam	J10	IN	Jam release method ⑤
Scanner ADF jam			Jam release method ⑥

Diagram of jam location

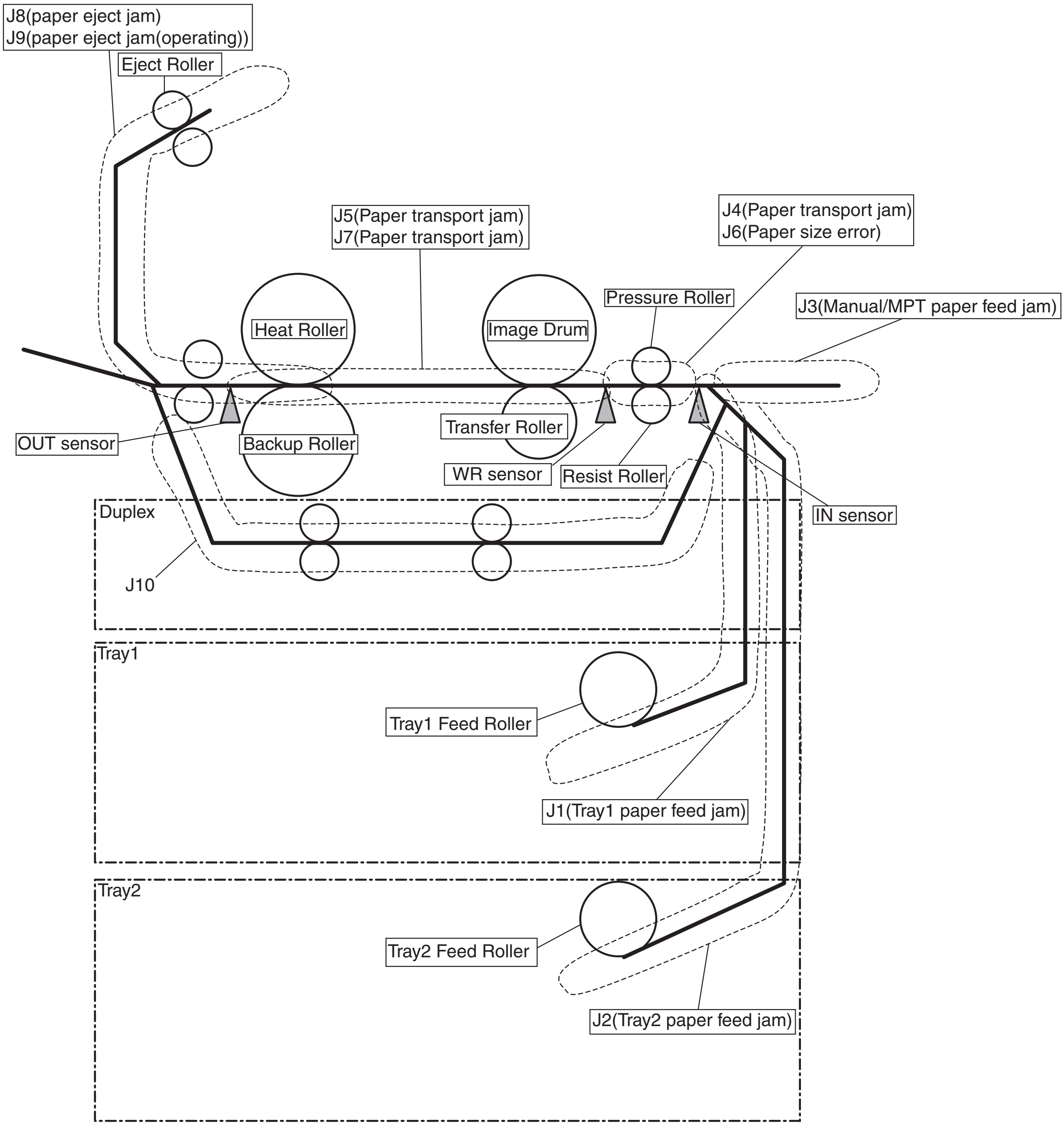

J8(paper eject jam)
J9(paper eject jam(operating))
Eject Roller
J5(Paper transport jam)
J7(Paper transport jam)
J4(Paper transport jam)
J6(Paper size error)
Pressure Roller
J3(Manual/MPT paper feed jam)
Heat Roller
Image Drum
OUT sensor
Backup Roller
Transfer Roller
WR sensor
Resist Roller
IN sensor
Duplex
J10
Tray1
Tray1 Feed Roller
J1(Tray1 paper feed jam)
Tray2
Tray2 Feed Roller
J2(Tray2 paper feed jam)

Fig 7.5.3

Jam Release Method ①

Remove the jammed paper.

Paper Tray Part [paper feed jam]

(1) Remove the paper tray from the printer.
(2) Remove any crumpled or folded paper.
(3) Remove any paper from the underside of the printer.

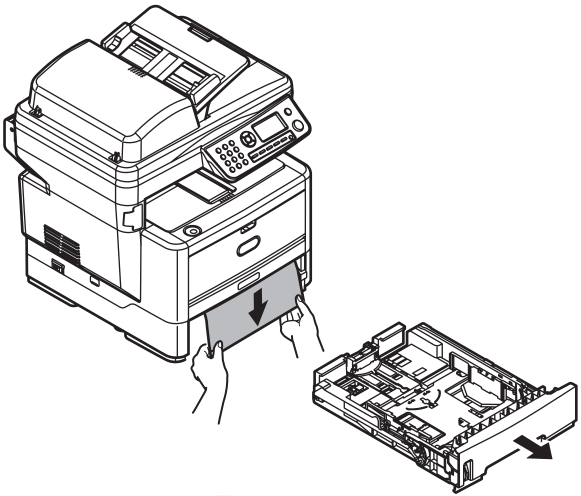


Fig 7.5.4

Jam Release Method ②

MP Tray Part [paper feed jam]

Note! Even if paper can be seen, when the paper can't be remove smoothly, the paper should be removed inside the printer.
The fuser might be damaged if drawing the paper out from behind with too much force.

(1) Draw the paper out slowly.

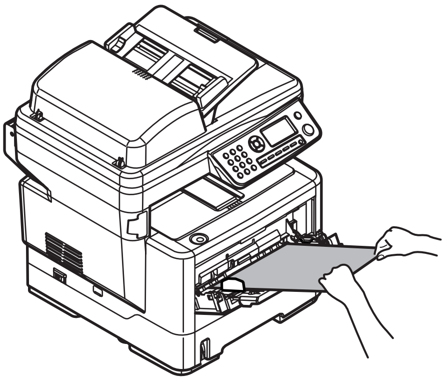


Fig 7.5.5

Jam Release Method ③

Printer inside Part [paper transport jam]

⚠**Caution**	Possible to get burned.	⚠

The fuser unit is extremely hot. Be careful not to touch it. If the fuser unit is hot, do not try yourself to clear paper but wait until the fuser unit becomes cool.

(1) Lift the scanner.

(2) Open the Stacker-cover-Assy.

(3) Touch the screw by hand to remove the static.

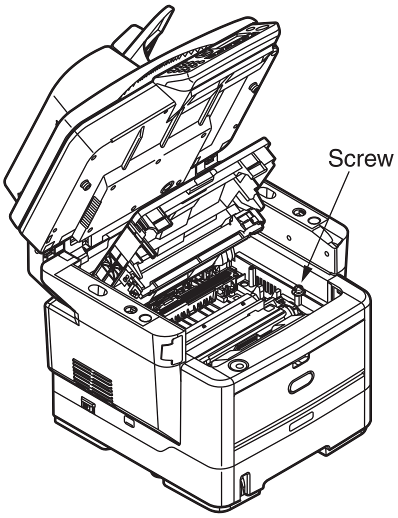


Fig 7.5.6

(4) Take the image drum out, and put them on a table with flat surface.

(5) Cover the taken-out image drum cartridge with black paper.

Note! • The image drum surface (green cylinder unit) is very delicate. Please handle with care.

• Never expose the image drum cartridge to direct sunlight or very bright light (more than 1500 lux).
Do not expose it to normal room light for more than 5 minutes.

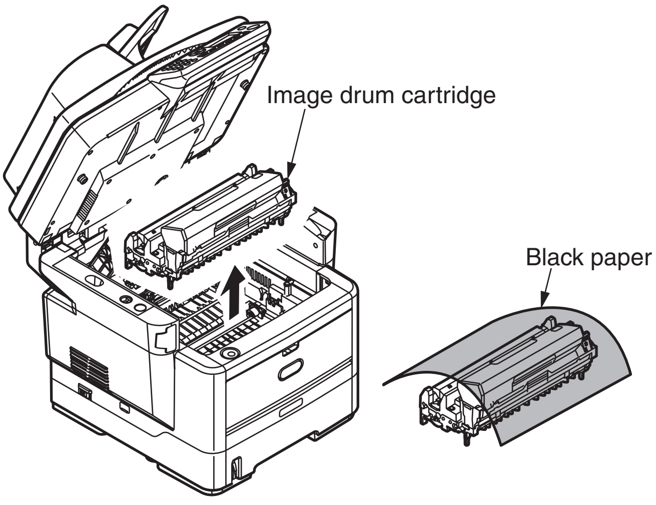


Fig 7.5.7

(6) Carefully remove the jammed paper.

When the front end of the paper can be seen

Carefully remove the jammed paper inside the printer.

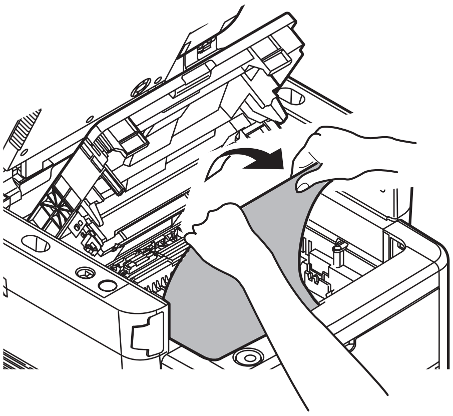


Fig 7.5.8

When the front and back end of paper cannot be seen

Carefully remove the jammed paper in the direction of the arrow.

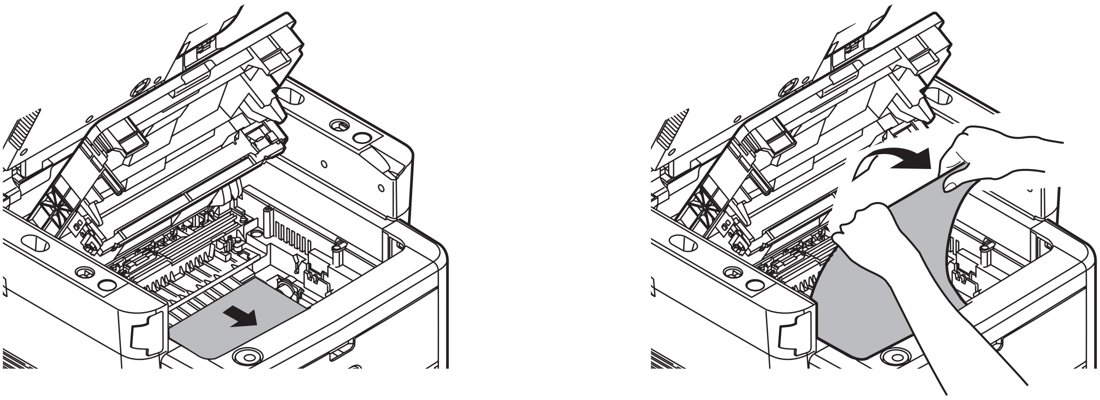


Fig 7.5.9

When the back end of paper can be seen

Press the release lever in the direction of the arrow, and carefully remove the jammed paper.

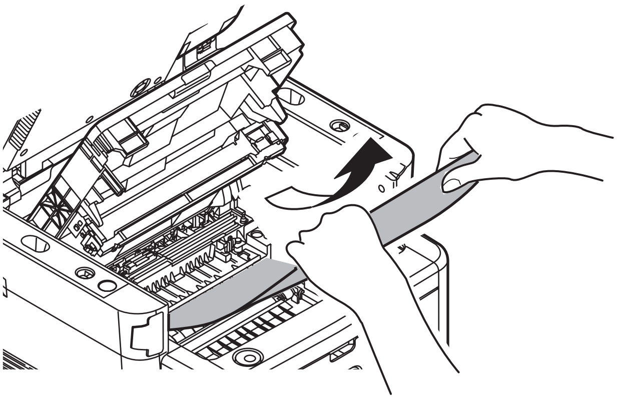


Fig 7.5.10

(7) Put the image drum cartridge back into position.

Jam Release Method④

Exit part [paper eject jam]

Note! Even if paper can be seen, when the paper can't be remove smoothly, the paper should be removed inside the printer.
The fuser might be damaged if drawing the paper out from behind with too much force.

If the front end can be seen

(1) Lift the scanner.
(2) Draw the paper out slowly from the exit.

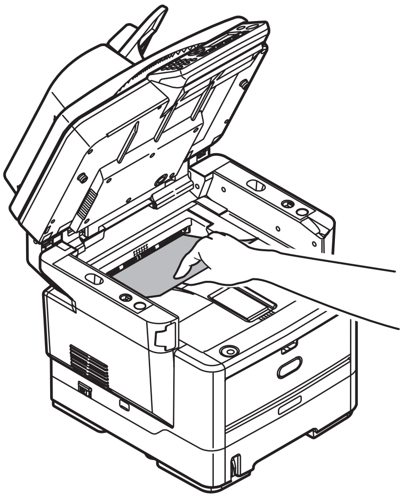


Fig 7.5.11

If the front end can,t be seen

(1) Open the Cover-face up.
(2) Draw the paper out slowly.

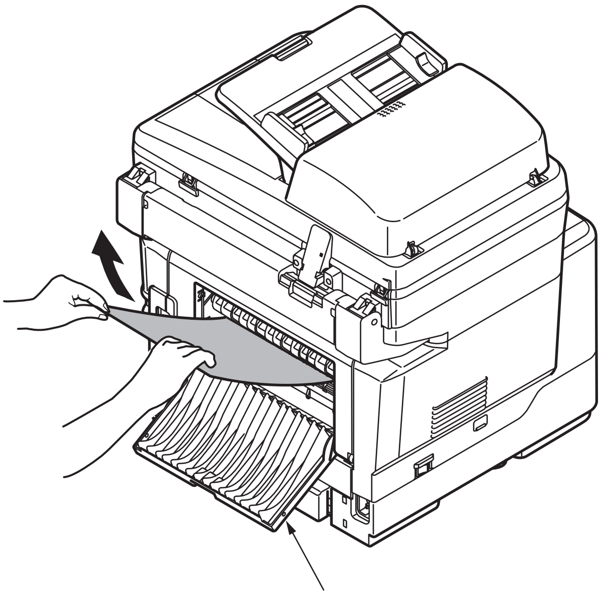


Fig 7.5.12

Open the Cover-face up , If the rear end can't be seen.

(1) Close the Cover-face up.
(2) Lift the scanner.
(3) Open the Rear cover.
(4) Open the Stacker-cover-Assy.
(5) Draw the paper out slowly .

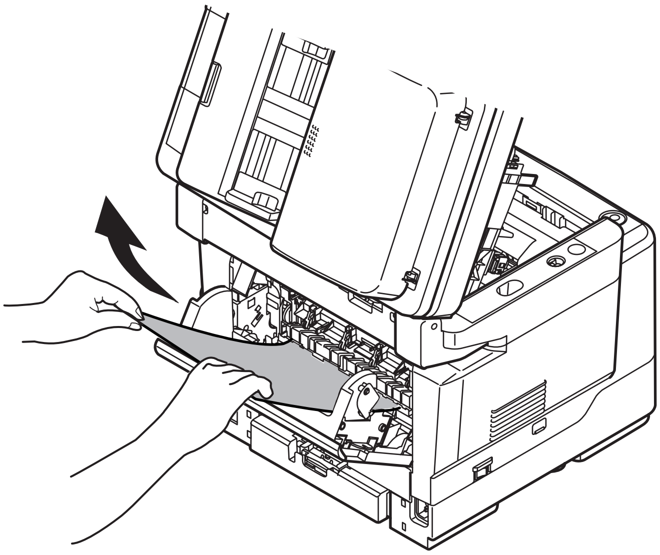


Fig 7.5.13

Jam Release Method ⑤

Duplex Unit Part [paper feed Jam]

(1) Remove the duplex unit and check for any paper in this area . Remove any paper and replace the duplex unit .

(2) If the paper is difficult to remove , push the cover in the arrow direction , raise it and remove the paper.

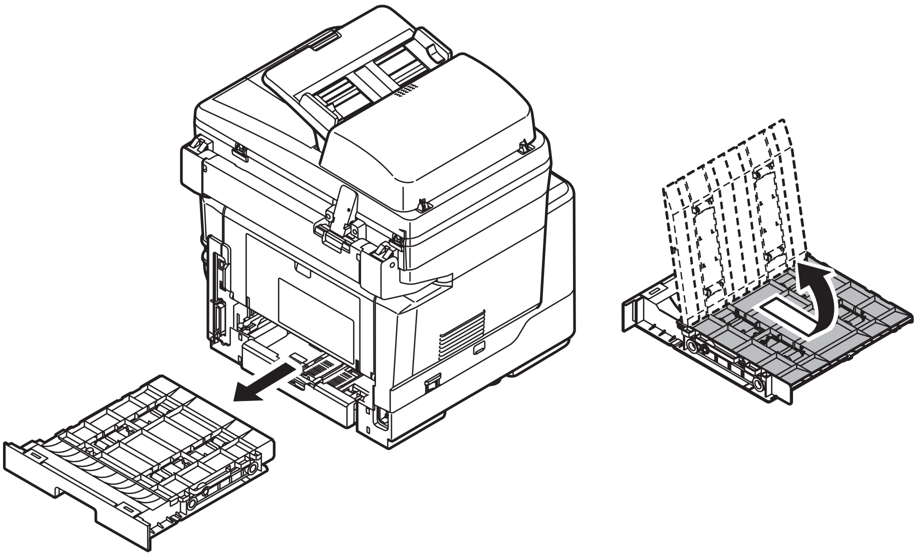


Fig 7.5.14

Jam Release Method ⑥

Scanner Unit Part [ADF Jam]

(1) Open the ADF Top Cover.

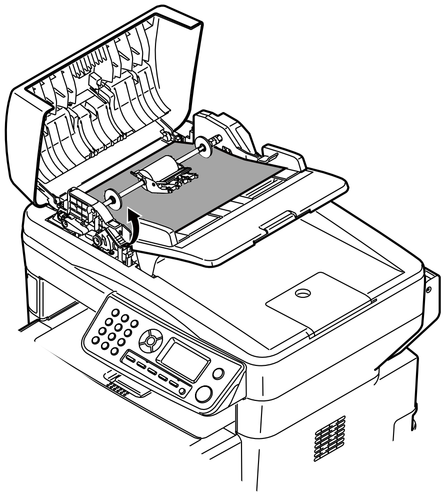


Fig 7.5.15

(2) Pinch the ADF lock lever and turn the Kernel Assy up until it is locked.

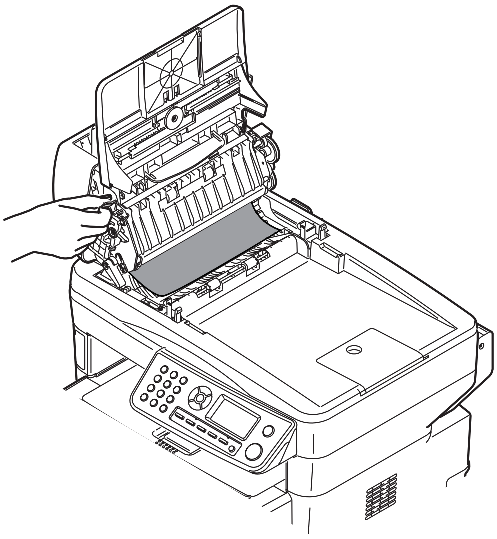


Fig 7.5.16

(3) Gently pull out the paper to the direction of the arrow.

Caution! Be sure not to pull out the paper swiftly, as it might be damaged.

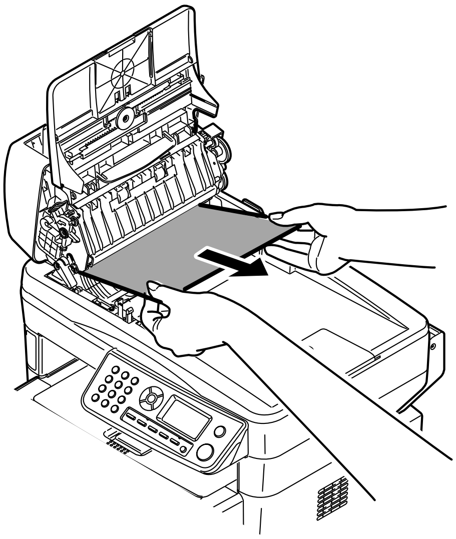


Fig 7.5.17

(4) Get back the Kernel Assy to the initial position.

(5) Close the ADF Top Cover.

(6) Press the stop button to restore the MFP.

[Jam Error]

②-1 Paper feed jam

- Does a jam error occur when turning on the power?
  - Yes　Is there any paper in the entrance sensor?
    - Yes　Remove the paper
  - No　Does the entrance sensor lever work normally? (It moves freely by touching.)
    - No　Replace the entrance sensor lever.
  - Yes　Clean the entrance sensor of the sensor board or high-voltage power, or replace the high-voltage power/ sensor board.
- No　A jam error occurs after feeding paper.
  - Yes　Is the paper sent to the entrance sensor lever?
    - Yes　Does the entrance sensor lever work normally? (It moves freely by touching.)
      - No　Replace the entrance sensor lever.
    - Yes　Clean the entrance sensor of the sensor board or high-voltage power, or replace the high-voltage power/ sensor board.
  - No　Replace the paper feed roller, pick-up roller or paper cassette.
- No　Does the paper feed roller rotate?
  - Yes　Set the paper cassette appropriately.
- No　Does the paper feed clutch work normally?
  - Yes　Replace the paper feed roller and shaft.
- No　Is HCLT connector of the main board appropriately connected?
  - No　Connect HCLT connector appropriately.
- Yes　Is the coil resistance of the paper feed clutch
  (Normal resistance: Pin1, Pin2, and approx. 192Ω) normally?
  - No　Replace the paper feed clutch.
- Yes　Replace the main board.

The sensors mounted on High voltage power board are Writing sensor, Entrance sensor, and Toner sensor.

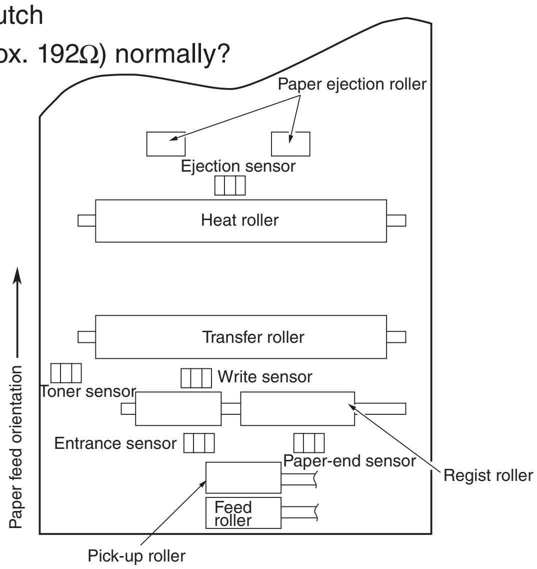

Paper ejection roller
Ejection sensor
Heat roller
Transfer roller
Write sensor
Toner sensor
Entrance sensor
Paper-end sensor
Regist roller
Feed roller
Pick-up roller
Paper feed orientation

Fig 7.5.18

[Jam Error]

②-2 Running jam

- Does a jam error occur when turning on the power?
    - Yes Is there any paper in the write sensor?
        - Yes Remove the paper.
    - No Does the write sensor lever work normally? (It moves freely by touching.)
        - No Replace the paper sensor plate.
    - Yes Replace the high-voltage power/ sensor board.
- No Does the paper reach the write sensor lever?
    - No Does the paper feed roller rotate?
        - No Replace Paper Feed Roller or Paper Feed Clutch.
    - Yes Is the image drum cartridge appropriately set?
        - No Set the image drum cartridge appropriately.
- Yes Does the paper reach the ejection sensor lever?
    - Yes Does the ejection sensor lever work normally? (It moves freely by touching.)
        - No Replace the ejection sensor lever.
    - Yes Clean the ejection sensor or replace the parts.
- No Does the main drum motor rotate?
    - No Is the DM connector of the main board connected appropriately?
        - No Connect DM connector appropriately.
    - Yes Replace the main drum motor. Or Replace the main board.
- Yes Doe the transfer roller rotate?
    - No Check the gear. (Transfer roller gear, drum gear at the left of drum cartridge)
- Yes Is the fuser unit Assy appropriately installed.
    - No Install the fuser unit Assy.
- Yes The image drum cartridge is appropriately set.
    - No Set the image drum cartridge appropriately.
- Yes Clean the high-voltage power/ the write sensor of the sensor board, or replace the high-voltage/ sensor board.

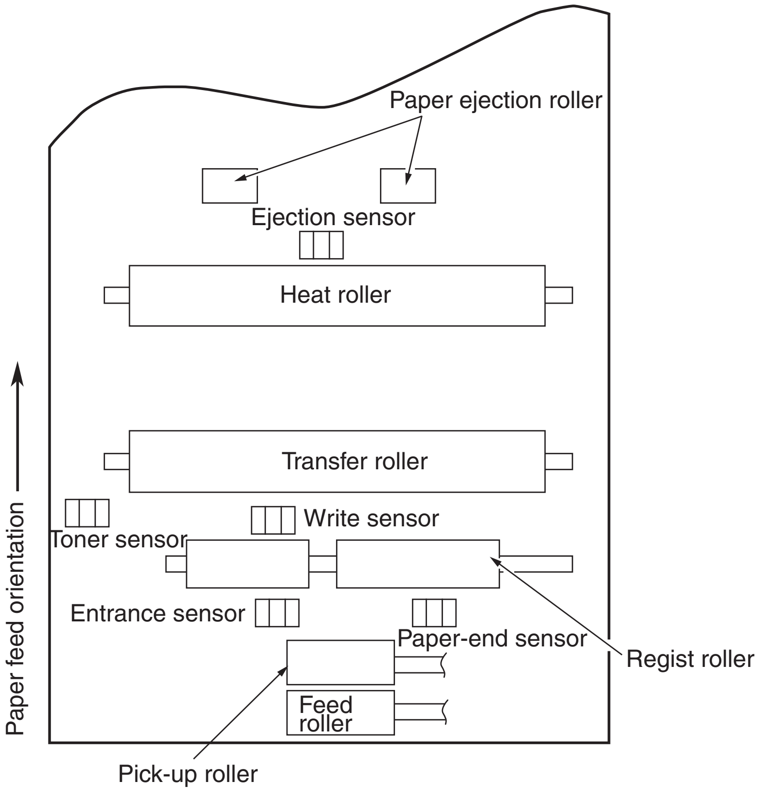
[Jam Error]

②-3 Ejection Jam

- Does an ejection jam error occur when turning on the power?
    - Yes Is there paper in the ejection sensor lever?
        - Yes Remove the paper.
    - No Does the ejection sensor lever work normally? (It moves freely by touching.)
        - No Replace the ejection sensor lever.
    - Yes Clean the ejection sensor or replace the parts.
- Yes Is the paper ejection roller appropriately installed?
    - No Install the paper ejection roller appropriately.
- Yes Is the paper ejection sprint appropriately installed?
    - No Install the paper ejection sprint appropriately.
- Yes Replace Cover-Assy Rear or fuser unit Assy.

③ Paper Size Error

- Is the paper which is specified size used?
  - No Use a specified-size paper.
- Yes Does the entrance sensor lever work normally? (It moves freely by touching.)
  - No Replace the entrance sensor lever, or clean the high-voltage power/ the entrance sensor of the sensor board.
- Yes Does the write sensor lever work appropriately? (It moves freely by touching.)
  - No Replace the write sensor lever, or clean the high-voltage power/ the entrance sensor of the sensor board.
- Yes Replace the high-voltage power/ the entrance sensor of the sensor board.


Paper ejection roller
Ejection sensor
Heat roller
Transfer roller
Write sensor
Toner sensor
Entrance sensor
Paper-end sensor
Regist roller
Feed roller
Pick-up roller
Paper feed orientation

The sensors mounted on High voltage power board are Writing sensor, Entrance sensor, and Toner sensor.

Fig 7.5.19

④ Fuser unit Assy (Error 170) (Error 171) (Error 172) (Error 173)

- Is the thermistor connector normally inserted in the CN2 connector of the high-voltage power/ sensor board?
  - No Insert the Thermistor connector correctly.
- Yes Is the heater connector normally inserted in the CN1 connector of the low-voltage power.
  - No Insert the heater connector appropriately.
- Yes Is the heater ON when turning on the power?
  - No Replace the fuser unit Assy, low-voltage power or main board.
- Yes Replace the fuser unti Assy or the main board.

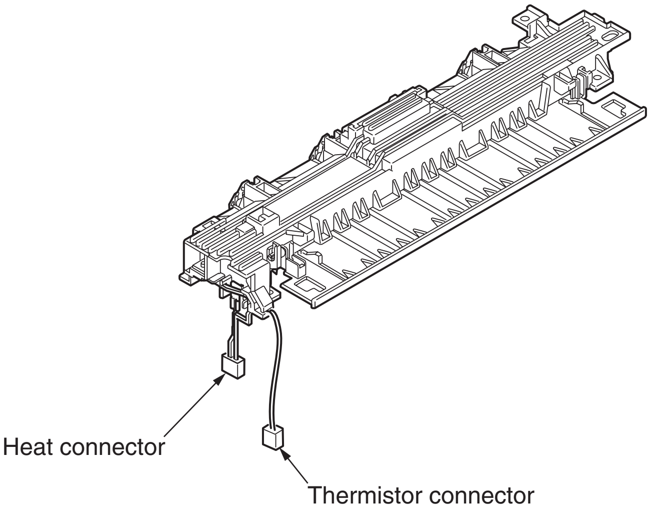


Fig 7.5.20

⑤ Interface Error (Error 182)

- Is the Second Tray unit used?
  - Yes Is the printer main body appropriately set on the Second Tray unit?
    - No Set the printer main body appropriately.
  - Yes Replace the main board.
  - Has the trouble been solved?
    - No Check the trouble according to the maintenance manual of the Second Tray unit of the appendix C.
  - Yes Completed.
- No Replace the main board.

⑥ Fan Error (Error 120)

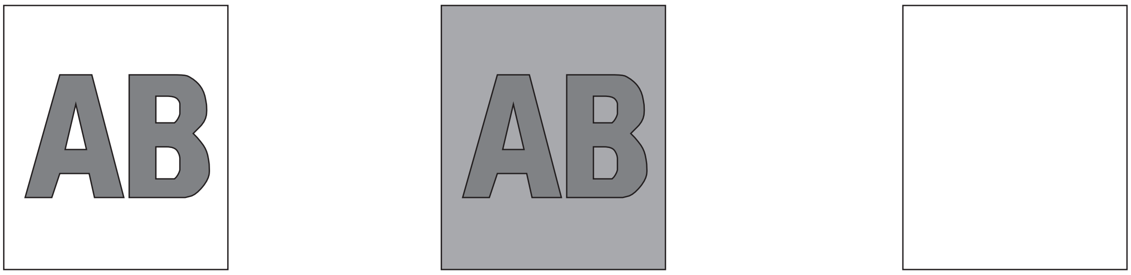
- Does the fan rotate?
  - Yes Replace the main board.
- No Is the fan connector of the high-voltage power/ sensor board connected?
  - No Connect the fan connector appropriately.
- Yes Does F3-fuse of 86M board open?
  - Yes Change the F3-fuse.
- Yes Replace the fan or main board.

7.5.3 Print Troubleshooting

The troubleshooting procedure of abnormal printing is described as follows. The typical abnormal printing is shown in the following Fig 7.5.21.

Table 7.5.6

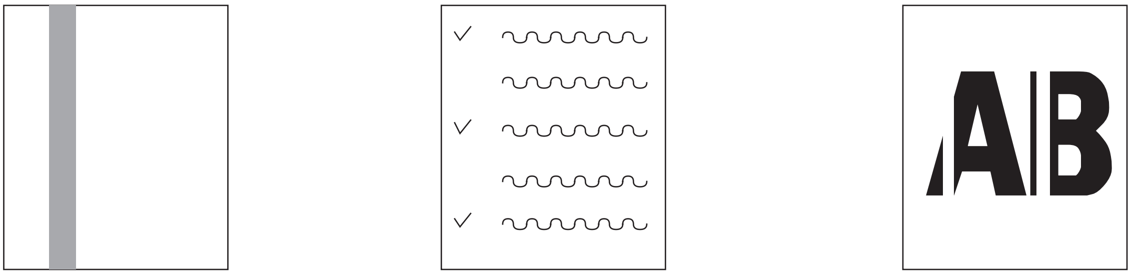
Trouble	Flowchart number
Pale printing or the whole printing is faded. (Fig 7.5.21 Ⓐ)	①
The white section is dirty. (Fig 7.5.21 Ⓑ)	②
White paper is outputted (Fig 7.5.21 Ⓒ)	③
Vertical black belt/ Black line (Fig 7.5.21 Ⓓ)	④
Periodic failure (Fig 7.5.21 Ⓔ)	⑤
A part of printing is extracted	⑥
Inefficient fusing (when touching the printed sheet, printed characters or image is faded or come off.)	⑦
Vertical white belt/ White line (Fig 7.5.21 Ⓕ)	⑧



Ⓐ Pale printing or the whole printing is faded

Ⓑ The white section is dirty

Ⓒ White paper



Ⓓ Vertical black belt/ Black line

Ⓔ Periodic failure

Ⓕ Vertical white belt/ White line

Fig 7.5.21

① Pale printing or the whole printing is faded.

- Does the printer lack toner? (Is the message of Toner Low displayed?)
  - Yes Supply the toner.
- No Is specified paper used.
  - No Use specified paper.
- Yes Is the lens of the LED head dirty?
  - Yes Clean the lens.
- No Is the LED head appropriately installed? (Check that the HEAD connector of the main board and the PC connector of the LED head are appropriately connected.)
  - No Install the LED head appropriately.

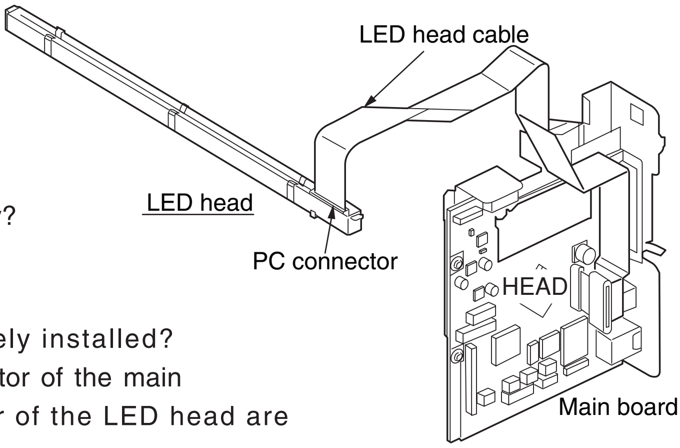


Fig 7.5.22

- Yes Is the contact plate of the transfer roller appropriately connected to the high-voltage power/ te contact assembly of the sensor board. (See Fig 7.5.25)
  - No Adjust the contact plate of the transfer roller so that it can be connected to the transfer roller shaft.
- Yes Are the contact of the developing roller and toner supply roller of the image drum cartridge appropriately connected to the contact assembly? (See Fig 7.5.23 Ⓐ and Ⓑ)
  - No Adjust so that the contacts of the developing roller and toner supply roller are connected to the contact assembly.
- Yes Replace the transfer roller.
- Has the trouble been solved?
  - Yes Completed
- No Replace the image drum cartridge.
- Has the trouble been solved?
  - Yes Completed
- No Are the surface status of the back up roller and the installation of the bias spring of the back-up roller appropriate?
  - No Replace the back-up roller or bias spring.
- Yes Replace the main board, high-voltage power/ sensor board.

② The white section is dirty

Is the image drum exposed by the external light?

- Yes Install the image drum in the printer and wait 30 minutes.

No Perform the cleaning page function. (See the section 6.2.1)

Has the trouble been solved?

- Yes Completed.

No Is the heat roller of the fuser unit assy dirty?

- Yes Clean the heat roller.

No Is the cleaning roller contact of the image drum cartridge appropriately connected to the contact assembly? (See Fig 7.5.23 Ⓒ)

- No Adjust so that the cleaning roller contact can be properly connected to the contact assembly.

Yes Replace the image drum cartridge.

Has the trouble been solved?

- Yes Completed.

No Replace the main board, high-voltage power/ sensor board.

③ White paper is outputted

Is the LED head appropriately connected? (Check the HEAD connector of the main board and the PC connector of the LED head.)

- No Connect the LED head appropriately or replace the head cable.

Yes Is the image drum cartridge appropriately connected to the earth contact? (See Fig 7.5.23 Ⓓ)

- No Adjust the earth contact (drum) of the contact assembly.

Yes Replace the LED head.

Has the trouble been solved?

- Yes Completed.

No Replace the main board, high-voltage power/ sensor board.

④ Vertical black belt/ Black line

- Perform the Cleaning page function. (See the section 6.2.1)
- Has the trouble been solved?
  - Yes Completed.
- No Replace the image drum cartridge.
- Has the trouble been solved?
  - Yes Completed.
- Clean the LED lens array of the LED head.
- Has the trouble been solved?
  - Yes Completed.
- No Replace the LED head.
- Has the trouble been solved?
  - Yes Completed.
- No Replace the main board, high-voltage power/ sensor board.

⑤ Periodic failure

Table 7.5.7

	Cycle	Handling
Image Drum	94.37mm	Replace or clean the image drum cartridge.
Developing roller	44.70mm	Replace the image drum cartridge.
Toner supply roller	70.30mm	Replace the image drum cartridge.
Charging roller	29.84mm	Replace the image drum cartridge.
Cleaning roller	24.84mm	Replace the image drum cartridge.
Transfer roller	51.68mm	Replace the transfer roller.
Heat roller	63.15mm	Replace the fuser unit Assy.
Back-up roller	69.40mm	Replace the back-up roller.

⑥ In case of error printing

Does the contact plate of transfer roller contact power/sensor board properly. (See Fig 7.5.25)

- No Adjust the contact plate to contact power/sensor board and transfer roller shaft properly.

Yes Replace transfer roller.

Has the problem been solved?

- Yes Completed

No Is LED Head installed properly? (Check the HEAD connector of main board and PC connector of LED Head.)

- No Install LED Head properly.

Yes Replace LED Head or Head cable.

Has the problem been solved?

- Yes Completed

No Replace the Main board or High voltage power/sensor board.

⑦ In case of inefficient fusing (If touch by hand the character or image that are printed on paper will be faded or unstuck.)

Is the specified paper used?

- No Use the specified paper.

Yes Is the tension of Back up roller (7.52kg) and the surface of Back up roller normal?

- No Replace Back up roller or bias spring.

Yes Dose the contact point of Fuser Assy contact the contact assembly properly. (See Fig 7.5.24)

- No Adjust the contact point of Fuser Assy to contact the contact assembly properly.

Yes Replace Fuser Assy.

Has the problem been solved?

- Yes Completed

No Replace Main board or High voltage power/sensor board.

⑧ Vertical white belt/ White line

Is the LED lens dirty?

- Yes Clean the LED lens.

No Is the contact plate of the transfer roller appropriately connected to the high-voltage power / sensor board? (See Fig 7.5.25)

- No Adjust so that the contact plate can be appropriately connected to the high-voltage power / sensor board.

Yes Replace the transfer roller.

Has the trouble been solved?

- Yes Completed.

No Are the surface status of the back-up roller and the installation of the bias sprint of the back-up roller appropriate?

- No Replace the back-up roller or the bias spring.

Yes Is the LED head appropriately installed? (Check the HEAD connector of the main board and the PC connector of the LED head.)

- No Install the LED head appropriately.

Yes Replace the LED head.

Has the trouble been solved?

- Yes Completed.

Yes Replace the image drum cartridge.

Has the trouble been solved?

No Replace the main board, high-voltage power/ sensor board.

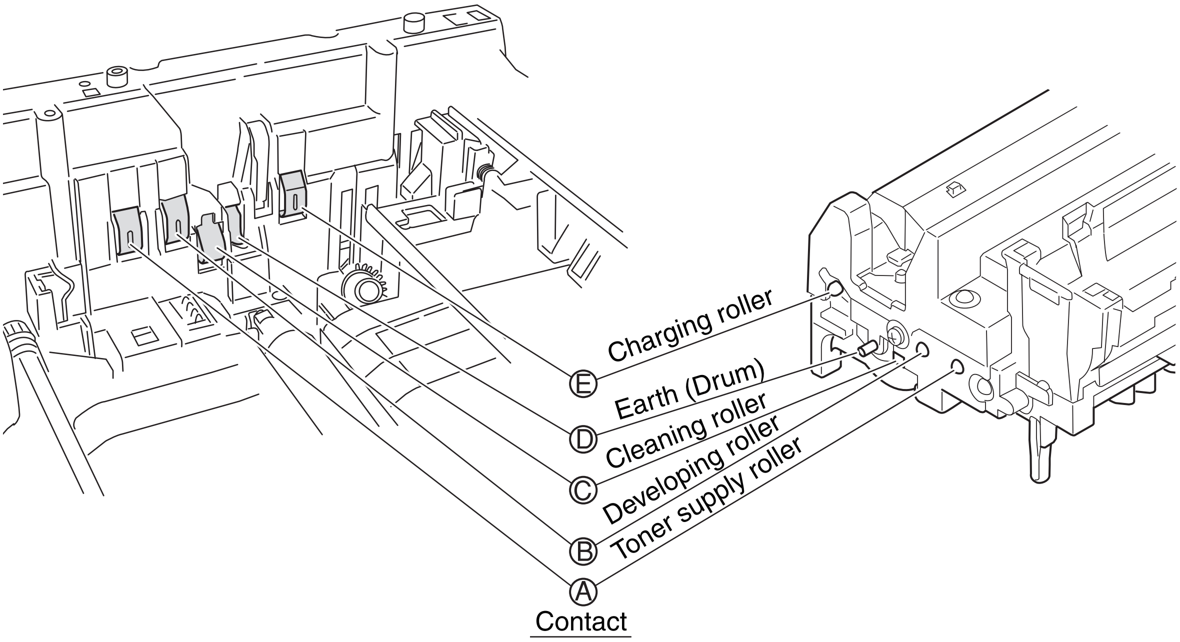

Charging roller
Earth (Drum)
Cleaning roller
Developing roller
Toner supply roller
E
D
C
B
A
Contact

Fig 7.5.23

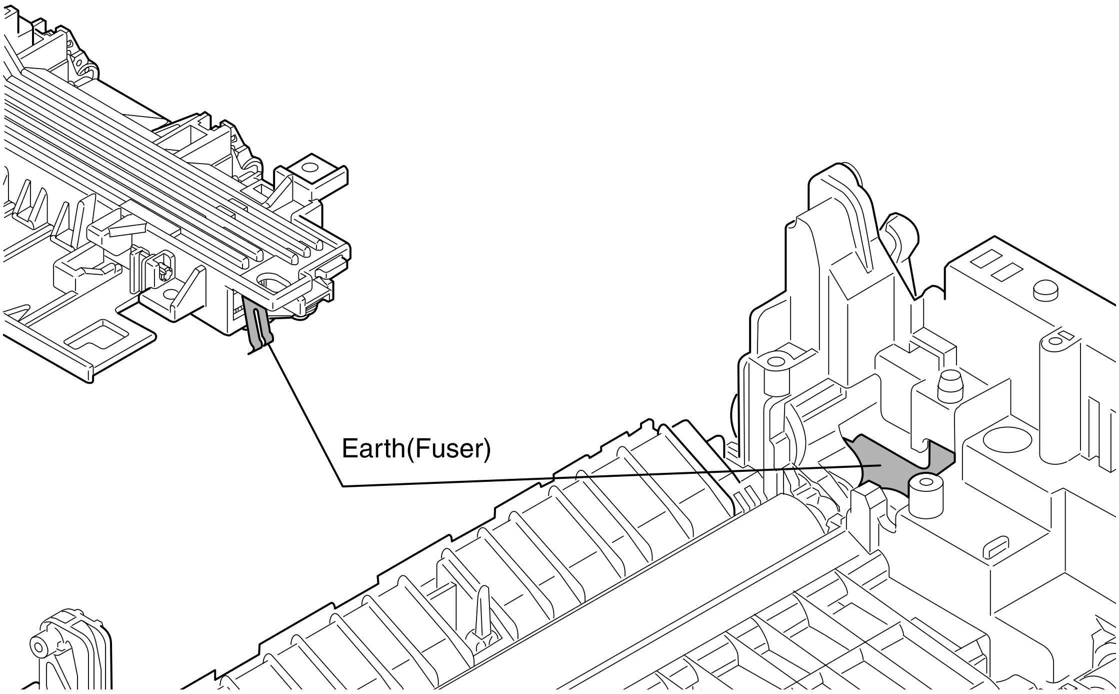

Earth(Fuser)

Fig 7.5.24

Fig 7.5.3

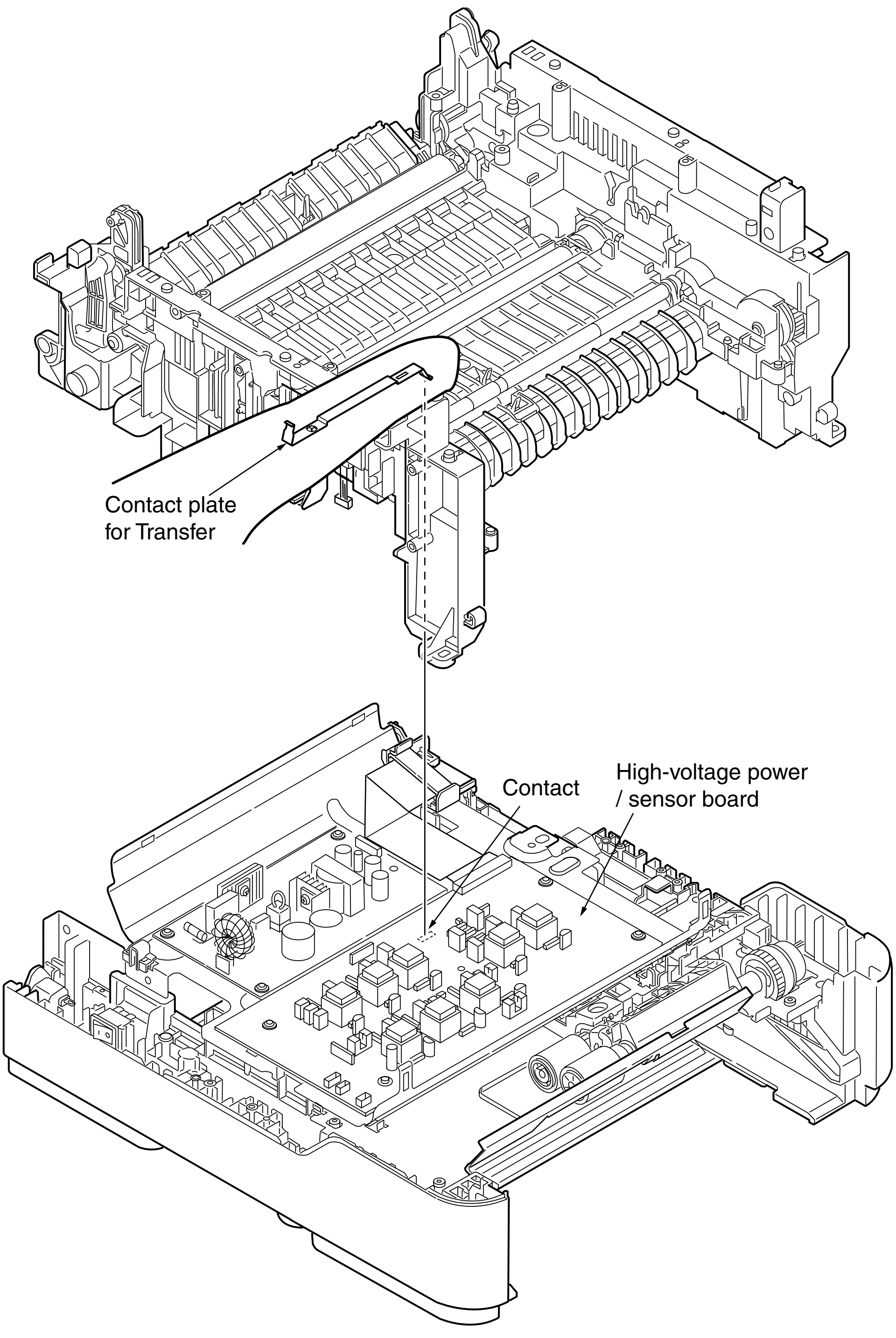

Contact plate
for Transfer
Contact
High-voltage power
/ sensor board

Fig 7.5.25

7.5.4 Response after Flash compulsive initialization

Explain the response after compulsive initialization is performed with trouble occurred in Flash.

(1) Flash compulsive initialization

If Flash compulsive initialization is performed, the following data would be deleted and the network and fax would not be available.

- NIC-Firmware
- WebPage data
- FAX-Firmware
- Log data
- Address data
- Message data

It is necessary to write above Firmware and data into Flash by the maintenance utility.

Note! Do not carry it out usually.

7.5.5 Network Troubleshooting

(1) Cannot print from Utility.

Table 7.5.8

Confirmation Items	Confirmation Tasks	Action at NG
(1) Checo the LINK iamp.		
Check whether LINK lamp(green) is lighted.	Check whether HUB and printer are connected normally. (Check the network cable connection.)	Reconnect the network cable normally.
	Check whether straight cable is used.	Replace with straight cable.
	Try to insert the network cable into different HUB port.	Try to replace the HUB.
(2) Check the network information.		
Check whether network information can be printed normally.	Press the Push-SW of NIC card, and then print out the network information.	Rewrite the NIC-Firmware by utility.
(3) Check the content of network information		
Check IP address, Subnet mask, Gateway address.	Print out the network information. Check IP address, Subnet mask, Gateway address.	Set the IP address, Subnet mask, Gateway address correctly.
(4) Check whether the communication on the network is normal.		
Send the Ping command from PC to printer to check	Send the Ping command from PC to printer, and check whether the response is correct.	Set the IP address, Subnet mask, Gateway address correctly.
(5) Check the utility		
Check the settings of OKIPR utility.	Check the setting items of OKIPR utility.	Set the setting items of OKIPR utility correctly.
(6) Check the OS standard port.		
Check windows (NT, 2000,XP) standard LPR port.	Set windows (NT, 2000,XP) standard LPR port, and check whether print is normal.	Set windows (NT, 2000,XP) standard LPR port correctly.

7.5.5.1 Connection error occurs with the Web browser

If the printer setting page cannot be displayed by the web browser ”https://<printer IP address>”, check the followings.

Establish connection by ”https://<printer IP address>.

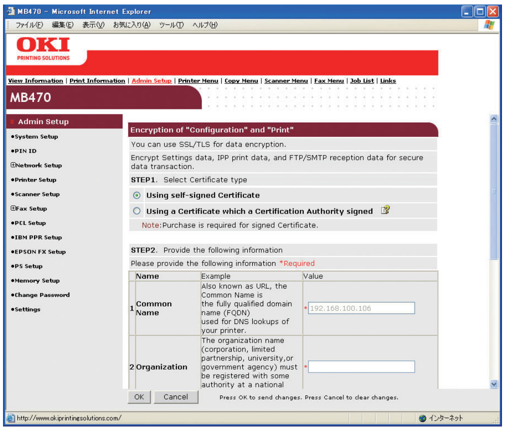
1) If the printer setting page is displayed, the followings are probable.
   Take an appropriate measure by referring to the following items.
   - * Certificate is not created yet. (Or failed to create certificate.)
     → Refer to section “7.5.5.1.1 Is the certificate created?”.
   - * Certificate has been created but the SSL/TLS setting is turned off.
     → Refer to section “7.5.5.1.2 Is the certificate created?”.
2) If the printer setting page is displayed, the followings are probable.
   - * Version number of the browser is old.
     → Refer to section “7.5.5.1.3 Check version number of the Web browser”.
   - * Encryption strength has been set to Strong.
     → Refer to section “7.5.5.1.4 Confirm encryption strength of a printer”.
   - * The key exchange system of a printer is not supported by the browser. (Compatibility problem).
     → Refer to section “7.5.5.1.5 Check the key exchange type of the certificate”.

7.5.5.1.1 Is the certificate created?

Log-on in as the administrator, and select “Security” → “Encryption (SSL/TLS)”.

If the following screen is displayed, certificate of the printer is not created yet. (The same screen is displayed when failed to create certificate.)

Solution: Create certificate by referring to the User’s Manual (Advanced edition).


MB470 - Microsoft Internet Explorer
ファイル(F) 編集(E) 表示(V) お気に入り(A) ツール(T) ヘルプ(H)
OKI
PRINTING SOLUTIONS
View Information | Print Information | Admin Setup | Printer Menu | Copy Menu | Scanner Menu | Fax Menu | Job List | Links
MB470
Admin Setup
•System Setup
•PIN ID
⊞Network Setup
•Printer Setup
•Scanner Setup
⊞Fax Setup
•PCL Setup
•IBM PPR Setup
•EPSON FX Setup
•PS Setup
•Memory Setup
•Change Password
•Settings
OK
Cancel
http://www.okiprintingsolutions.com/
インターネット

Encryption of "Configuration" and "Print"

You can use SSL/TLS for data encryption.

Encrypt Settings data, IPP print data, and FTP/SMTP reception data for secure data transaction.

STEP1. Select Certificate type

● Using self-signed Certificate

○ Using a Certificate which a Certification Authority signed

Note:Purchase is required for signed Certificate.

STEP2. Provide the following information

Please provide the following information *Required

	Name	Example	Value
1	Common Name	Also known as URL, the Common Name is the fully qualified domain name (FQDN) used for DNS lookups of your printer.	* 192.168.100.106
2	Organization	The organization name (corporation, limited partnership, university,or government agency) must be registered with some authority at a national	*

Press OK to send changes. Press Cancel to clear changes.

Before creating certificate (default state)

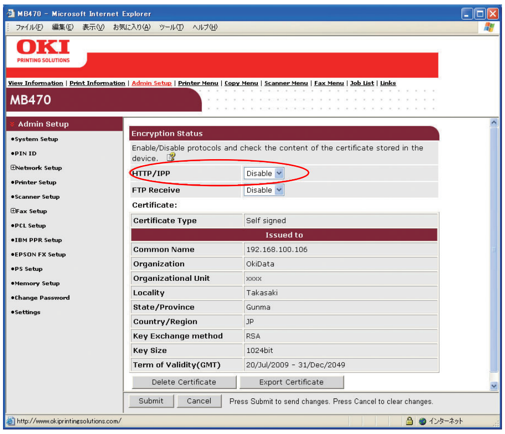
Fig 7.5.26

7.5.5.1.2 Is the certificate created?

Log-on in as the administrator, and select “Security” → “Encryption (SSL/TLS)”.

If the following screen is displayed, certificate has already been created, but the SSL/TLS setting is turned [OFF].

Solution: Set the SSL/TLS setting to [ON].


MB470 - Microsoft Internet Explorer
ファイル(F) 編集(E) 表示(V) お気に入り(A) ツール(T) ヘルプ(H)
OKI
PRINTING SOLUTIONS
View Information | Print Information | Admin Setup | Printer Menu | Copy Menu | Scanner Menu | Fax Menu | Job List | Links
MB470
Admin Setup
•System Setup
•PIN ID
⊞Network Setup
•Printer Setup
•Scanner Setup
⊞Fax Setup
•PCL Setup
•IBM PPR Setup
•EPSON FX Setup
•PS Setup
•Memory Setup
•Change Password
•Settings
Delete Certificate
Export Certificate
Submit
Cancel
http://www.okiprintingsolutions.com/
インターネット

Encryption Status

Enable/Disable protocols and check the content of the certificate stored in the device.

HTTP/IPP: Disable

FTP Receive: Disable

Certificate:

Certificate Type	Self signed
Issued to	
Common Name	192.168.100.106
Organization	OkiData
Organizational Unit	xxxx
Locality	Takasaki
State/Province	Gunma
Country/Region	JP
Key Exchange method	RSA
Key Size	1024bit
Term of Validity(GMT)	20/Jul/2009 - 31/Dec/2049

Press Submit to send changes. Press Cancel to clear changes.

Fig 7.5.27

7.5.5.1.3 Check version number of the Web browser.”

Check version number of the Web browser in use.

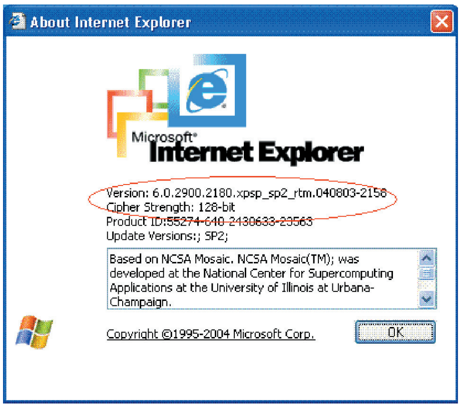
How to check version number.

For Internet Explorer

Launch the browser and select “HELP” → “Version information”.

Recommended version is Internet Explorer 5.5 and higher.

Solution: Install the newest web browser. Alternately, install the high encryption pack. If any version that is older than the recommended version is used, communication can become possible sometimes when the encryption strength is set to “Weak”. If the encryption strength is set to “Weak”, security level lowers. To change the encryption strength, refer to section “7.5.5.1.4 Confirm encryption strength of a printer.” . Refer to section “7.5.5.1.4 Confirm encryption strength of a printer” to change the encryption strength.


About Internet Explorer
Microsoft®
Internet Explorer
OK

Version: 6.0.2900.2180.xpsp_sp2_rtm.040803-2158
Cipher Strength: 128-bit
Product ID:55274-640-2430633-23563
Update Versions:; SP2;

Based on NCSA Mosaic. NCSA Mosaic(TM); was developed at the National Center for Supercomputing Applications at the University of Illinois at Urbana-Champaign.

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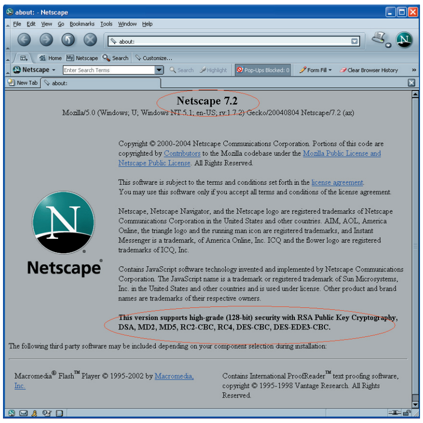
Fig 7.5.28

For Netscape

Launch the web browser and select “HELP” → “Netscape”.
Recommended version is Netscape 6 and higher.

Solution: Install the newest web browser.

If any version that is older than the recommended version is used, communication can become possible sometimes when the encryption strength is set to “Weak”. If the encryption strength is set to “Weak”, security level lowers. To change the encryption strength, refer to section “7.5.5.1.4 Confirm encryption strength of a printer.” .. Refer to section “7.5.5.1.4 Confirm encryption strength of a printer” to change the encryption strength.



Netscape 7.2

Mozilla/5.0 (Windows; U; Windows NT 5.1; en-US; rv:1.7.2) Gecko/20040804 Netscape/7.2 (ax)

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This version supports high-grade (128-bit) security with RSA Public Key Cryptography, DSA, MD2, MD5, RC2-CBC, RC4, DES-CBC, DES-EDE3-CBC.

The following third party software may be included depending on your component selection during installation:

Macromedia® Flash™ Player © 1995-2002 by Macromedia, Inc.

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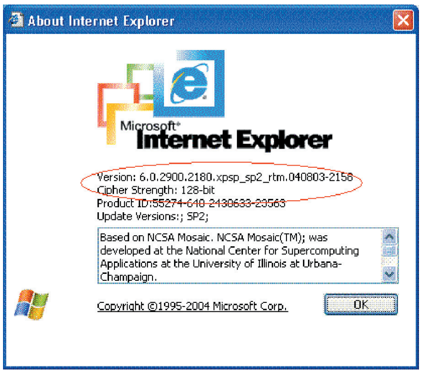
Fig 7.5.29

7.5.5.1.4 Confirm encryption strength of a printer

Version display of the browser that is confirmed by section “7.5.4.1.3 Check version number of the Web browser” has description on encryption strength of the browser. The browser in which the encryption strength is not set to 128 bits, the browser cannot establish communication with the printer in which the encryption strength is not set to “Standard”.
Either, upgrade the browser until it supports 128 bits (high encryption) or set the printer encryption strength to “Weak”.



Version: 6.0.2900.2180.xpsp_sp2_rtm.040803-2158
Cipher Strength: 128-bit
Product ID:55274-640-2430633-23563
Update Versions:; SP2;

Based on NCSA Mosaic. NCSA Mosaic(TM); was developed at the National Center for Supercomputing Applications at the University of Illinois at Urbana-Champaign.

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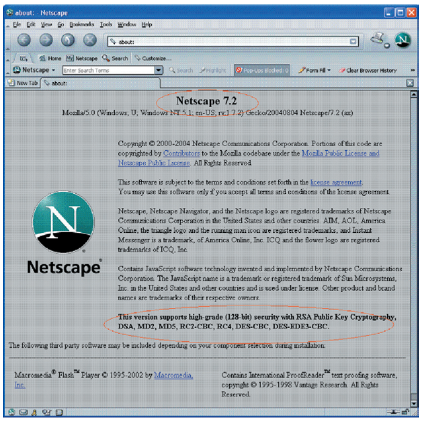
Fig 7.5.30



Netscape 7.2

Mozilla/5.0 (Windows; U; Windows NT 5.1; en-US; rv:1.7.2) Gecko/20040804 Netscape/7.2 (ax)

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This version supports high-grade (128-bit) security with RSA Public Key Cryptography, DSA, MD2, MD5, RC2-CBC, RC4, DES-CBC, DES-EDE3-CBC.

The following third party software may be included depending on your component selection during installation:

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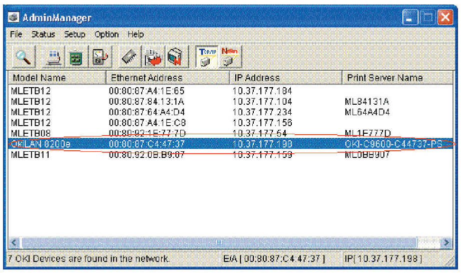
Contains International ProofReader™ text proofing software, copyright © 1995-1998 Vantage Research. All Rights Reserved.

Fig 7.5.31

Change encryption strength with AdminManager

1. Launch AdminManager and select (by highlighting) a desired printer from the printer list.

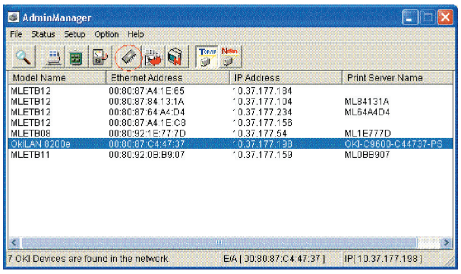

AdminManager
File Status Setup Option Help

Model Name	Ethernet Address	IP Address	Print Server Name
MLETB12	00:80:87:A4:1E:65	10.37.177.184	
MLETB12	00:80:87:84:13:1A	10.37.177.104	ML84131A
MLETB12	00:80:87:64:A4:D4	10.37.177.234	ML64A4D4
MLETB12	00:80:87:A4:1E:C8	10.37.177.156	
MLETB08	00:80:92:1E:77:7D	10.37.177.54	ML1E777D
OkiLAN 8200e	00:80:87:C4:47:37	10.37.177.198	OKI-C9600-C44737-PS
MLETB11	00:80:92:0B:B9:07	10.37.177.159	ML0BB907

7 OKI Devices are found in the network. E/A [00:80:87:C4:47:37] IP[10.37.177.198]

Fig 7.5.32

2. Press the “Oki Device Setup” button, or alternately select “Setup” → “Oki Device Setup”, and open the setup screen.

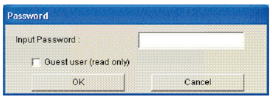

AdminManager
File Status Setup Option Help

Model Name	Ethernet Address	IP Address	Print Server Name
MLETB12	00:80:87:A4:1E:65	10.37.177.184	
MLETB12	00:80:87:84:13:1A	10.37.177.104	ML84131A
MLETB12	00:80:87:64:A4:D4	10.37.177.234	ML64A4D4
MLETB12	00:80:87:A4:1E:C8	10.37.177.156	
MLETB08	00:80:92:1E:77:7D	10.37.177.54	ML1E777D
OkiLAN 8200e	00:80:87:C4:47:37	10.37.177.198	OKI-C9600-C44737-PS
MLETB11	00:80:92:0B:B9:07	10.37.177.159	ML0BB907

7 OKI Devices are found in the network. E/A [00:80:87:C4:47:37] IP[10.37.177.198]

Fig 7.5.33

3. Input the administrator password and open the setup screen as an administrator.

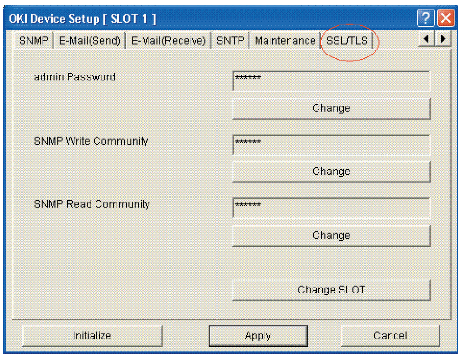

Password
OK
Cancel

Input Password :

☐ Guest user (read only)

Fig 7.5.34

4. Select the “SSL/TLS” tab.


OKI Device Setup [SLOT 1]
SNMP
E-Mail(Send)
E-Mail(Receive)
SNTP
Maintenance
SSL/TLS
Change
Change
Change
Change SLOT
Initialize
Apply
Cancel

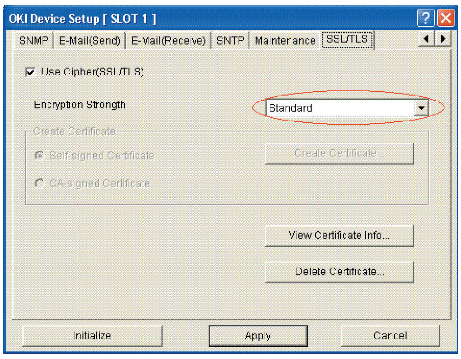
admin Password ******

SNMP Write Community ******

SNMP Read Community ******

Fig 7.5.35

5. Check the “Encryption Strength”.


OKI Device Setup [SLOT 1]
SNMP
E-Mail(Send)
E-Mail(Receive)
SNTP
Maintenance
SSL/TLS
Create Certificate
Create Certificate
View Certificate Info...
Delete Certificate...
Initialize
Apply
Cancel

☑ Use Cipher(SSL/TLS)

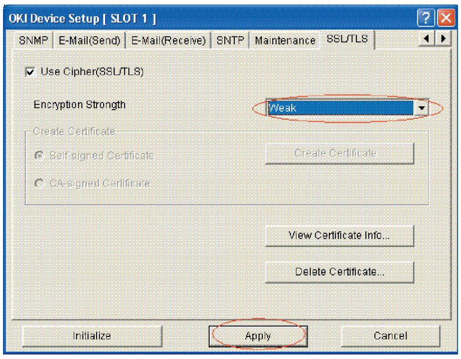
Encryption Strength Standard

● Self-signed Certificate

○ CA-signed Certificate

Fig 7.5.36

6. Set the “Encryption Strength” to “Weak” and press the “Apply” button.

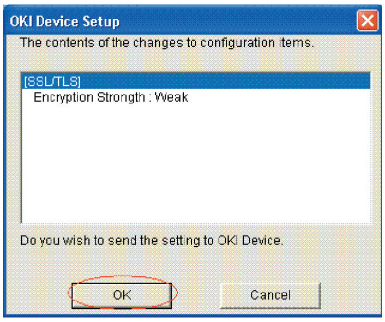

OKI Device Setup [SLOT 1]
SNMP
E-Mail(Send)
E-Mail(Receive)
SNTP
Maintenance
SSL/TLS
Create Certificate
Self-signed Certificate
CA-signed Certificate
Create Certificate
View Certificate Info...
Delete Certificate...
Initialize
Apply
Cancel

☑ Use Cipher(SSL/TLS)

Encryption Strength: Weak

Fig 7.5.37

7. Check the setup contents, and press “OK”.


OKI Device Setup
OK
Cancel

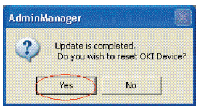
The contents of the changes to configuration items.

[SSL/TLS]
Encryption Strength : Weak

Do you wish to send the setting to OKI Device.

Fig 7.5.38

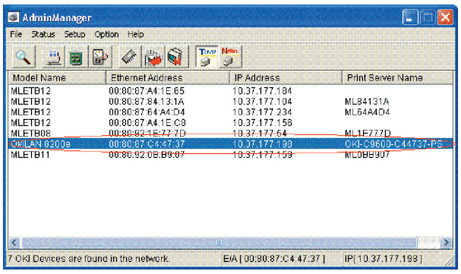
8. A message prompting your confirmation will be displayed. Click “Yes”. (NIC reboots to reflect the setting.)


AdminManager
Yes
No

Update is completed.
Do you wish to reset OKI Device?

Fig 7.5.39

9. If the printer is displayed in the printer list, the setup is complete with success.


AdminManager
File
Status
Setup
Option
Help

Model Name	Ethernet Address	IP Address	Print Server Name
MLETB12	00:80:87:A4:1E:65	10.37.177.184	
MLETB12	00:80:87:84:13:1A	10.37.177.104	ML84131A
MLETB12	00:80:87:64:A4:D4	10.37.177.234	ML64A4D4
MLETB12	00:80:87:A4:1E:C8	10.37.177.156	
MLETB08	00:80:92:1E:77:7D	10.37.177.54	ML1E777D
OKILAN 8200e	00:80:87:C4:47:37	10.37.177.198	OKI-C9600-C44737-PS
MLETB11	00:80:92:0B:B9:07	10.37.177.159	ML0BB907

7 OKI Devices are found in the network. E/A [00:80:87:C4:47:37] IP[10.37.177.198]

Fig 7.5.40

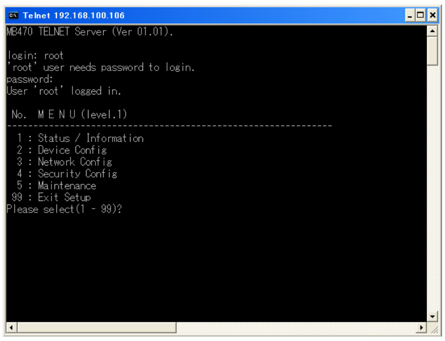
Solution: Set the printer encryption strength to “Weak”.

How to change encryption strength with Telnet

Note! Telnet cannot be used by default. To change the encryption strength, Telnet must be set to Enable.

Select the command prompt (DOS prompt) and enter ”Telnet <printer IP address>“, and press Return.

Establish connected using administrator user name and password.



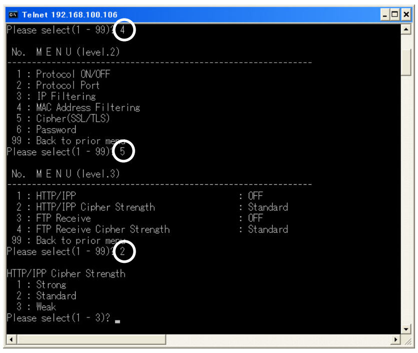
```
MB470 TELNET Server (Ver 01.01).

login: root
'root' user needs password to login.
password:
User 'root' logged in.

 No.  M E N U (level.1)
----------------------------------------------------------------
  1 : Status / Information
  2 : Device Config
  3 : Network Config
  4 : Security Config
  5 : Maintenance
 99 : Exit Setup
Please select(1 - 99)?
```

Fig 7.5.41

Select the menus in this order: [4: Security Config] → [5: Cipher (SSL/TLS)] → [2: Cipher Strength]. Then, change the cipher strength as desired (1: Strong, 2: Standard, 3: Weak).



```
Please select(1 - 99)? 4

 No.  M E N U (level.2)
----------------------------------------------------------------
  1 : Protocol ON/OFF
  2 : Protocol Port
  3 : IP Filtering
  4 : MAC Address Filtering
  5 : Cipher(SSL/TLS)
  6 : Password
 99 : Back to prior menu
Please select(1 - 99)? 5

 No.  M E N U (level.3)
----------------------------------------------------------------
  1 : HTTP/IPP                                  : OFF
  2 : HTTP/IPP Cipher Strength                  : Standard
  3 : FTP Receive                               : OFF
  4 : FTP Receive Cipher Strength               : Standard
 99 : Back to prior menu
Please select(1 - 99)? 2

HTTP/IPP Cipher Strength
  1 : Strong
  2 : Standard
  3 : Weak
Please select(1 - 3)? _
```

Fig 7.5.42

7.5.5.2 Print operation is not possible

If print operation is not possible by using the encrypted IPP printer, check the followings.

Establish connection by ”https://<printer IP address>.

1) If the printer setting page is displayed, the followings are probable.

   Take an appropriate measure by referring to the following items.

   * Certificate is not created yet. (Or failed to create certificate.)
   → Refer to section “7.5.5.1.1 Is the certificate created?”.

   * Certificate has been created but the SSL/TLS setting is turned off.
   → Refer to section “7.5.5.1.2 Is the certificate created?”.

2) If the printer setting page is displayed, the followings are probable.

   Take an appropriate measure by referring to the following items.

   * Version number of the browser is old.
   → Refer to section “7.5.5.1.3 Check version number of the Web browser”.

   * Encryption strength has been set to Strong.
   → Refer to section “7.5.5.1.4 Confirm encryption strength of a printer”.

   * The key exchange system of a printer is not supported by the browser. (Compatibility problem).

   * The OS does not support the IPP (encrypted) printing.
   → Refer to section “7.5.5.2.1 Check OS (Operating System)”.

   * IPP (encrypted) printer is not created yet.
   → Refer to section “7.5.5.2.2 Is the Printer created?”

   * IPP setup of the Printer is not Enabled.
   → Refer to section “7.5.5.2.3 Is the IPP setting set to Enabled?”.

7.5.5.2.1 Check OS (Operating System)

The IPP print (encryption) function is supported by Windows 2000 and Windows XP only.

It is not supported by other operating systems.

7.5.5.2.2 Is the Printer created?

Printer may not be created normally.

To use the IPP print (encryption) function, the Printer must have been created by setting port to URL” printer IP address>/ipp” when creating the Printer.

For more details of Printer creation method, refer to the User’s Manual (Advanced edition).

7.5.5.2.3 Is the IPP setting set to Enabled?”

The IPP setup may not be set to Enable.

As the default setting of printer, IPP has been set to Disable.

To use the IPP print (encryption) function, the IPP setup must have been set to Enable.

For the method of changing the IPP setup, refer to the User’s Manual (Advanced edition).

7.5.5.3 Cannot create Certificate

When Certificate cannot be created, the following causes are probable.

Take an appropriate measure by referring to the following items.

* Required input items are not fully entered
  → Refer to section “7.5.5.3.1 Required input items are not fully entered.”

* The printer is printing.
  → Refer to section “7.5.5.3.2 The printer is printing.

7.5.5.3.1 Required input items are not fully entered.

Unless all of the required input items are fully entered, Certificate cannot be created.

When creating Certificate, entry into the items of Common Name, Organization, Locality, State/ Province, Country/Region is the must item. (Entry into Organizational Unit can be omitted.)

Solution: Enter the appropriate value into all of the required input items, and execute creation of Certificate. For more details of the input items, refer to the User’s Manual (Advanced edition).

7.5.5.3.2 The printer is printing.

Certificate cannot be created while printing is in progress. (Print operation has priority).

Solution: Create Certificate when all other operations are complete. During creation of self-sign certification, during creation of CSR for Certificate of certification authority, and during installation of Certificate, the printer must not perform any other operations (such as printing) until the operation is complete (creation of self-sign certification is complete, creation of CSR is complete, and installation of Certificate is complete).

7.5.5.4 Installation of Certificate is not possible

When installation of Certificate fails, the following causes are probable.

Take an appropriate measure by referring to the following items.

* User has changed the IP address of a printer to other IP address than the “IP address during creation of CSR”.
  → Refer to section “7.5.5.4.1 IP address of the printer has been changed”.

* “Network card is initialized” while user is applying issuance of Certification to certification authority (i.e., in the state of Waiting for Installation of Certificate).
  → Refer to section “7.5.5.4.2 “Network card is initialized”.

* “Deletion of CSR” was executed while user is applying issuance of Certification to certification authority (i.e., in the state of Waiting for Installation of Certificate).
  → Refer to section “7.5.5.4.3 “Deletion of CSR” is executed”.

* Intermediate Certificate is installed.
  → Refer to section “7.5.5.4.4 “Installation of intermediate Certificate” is desired”.

7.5.5.4.1 User has changed the IP address of a printer

If IP address of a printer is changed to other IP address than the “IP address during creation of CSR”, error is issued and installation of Certificate become impossible.

If the changed setup is only the “IP address of printer”, error will not be issued if the IP address is returned to the original address.

Solution: Return the IP address of printer back to the “IP address during creation of CSR”, and then install Certificate.

Note! Do not change any setup of printer while creation of Certificate of certification authority is in progress (during the period starting from creation of CSR up until installation of Certificate). If changed, the already issued Certificates become invalid necessitating re-setup starting from the very beginning. If printer setup is changed after Certificate is obtained, the “Security warning” is displayed on the web browser.
If IP address of printer is changed, the Certificate becomes invalid. In the case of Certificate of certification authority requiring some charge for issuance, another charge may be required for creating Certificate once again. For details, contact certification authority.).

7.5.4.4.2 “Network card is initialized”

If network card is initialized (to default setup) while creation of Certificate of certification authority is in progress (during the period starting from creation of CSR up until installation of Certificate), the setup information of the Certificate is deleted. If information is deleted once, the information cannot be recovered by any means. (Even when the same information as before is entered, the same Certificate cannot be created.) .

Solution: Repeat all the steps from the very beginning. (Certificate under application is already invalid.)

7.5.5.4.3 “CSR is deleted”

If network card is initialized (to default setup) while creation of Certificate of certification authority is in progress (during the period starting from creation of CSR up until installation of Certificate), the setup information of the Certificate is deleted. If information is deleted once, the information cannot be recovered by any means. (Even when the same information as before is entered, the same Certificate cannot be created.) .If information is deleted once, the information cannot be recovered by any means. (Even when the same information as before is entered, the same Certificate cannot be created.) .

Solution: Repeat all the steps from the very beginning. (Certificate under application is already invalid.).

7.5.5.4.4 “Installation of intermediate Certificate” is desired

Some certification authorities use the procedure of installing the SSL server Certificate (printer Certificate) and the intermediate Certificate into printer as the same time.

However, printer of this model supports installation of only a single Certificate, intermediate Certificate cannot be installed in printer. Be sure to install the SSL server Certificate in printer.

When installation of intermediate Certificate is required, install the intermediate Certificate not in printer, but in client PC (browser).

For the method of installing the intermediate Certificate in client PC (browser), refer to the following.

Installing the intermediate Certificate (or CA certificate) in client PC (browser)

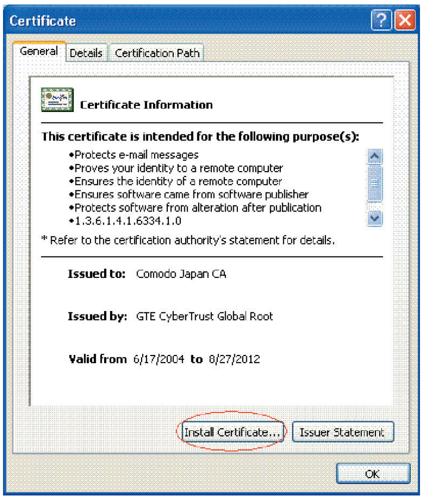
[Procedure]

1. Double-click the intermediate Certificate (or CA certificate) that is issued by certification authority, on a client PC to display the intermediate Certificate (or CA certificate).

   Example: For an example, the intermediate Certificate of Comodo has the text (PEM) format: ComodoJapanCA.Crt, and the binary format: ComodoJapanCA.cer. Either one of these formats can be opened. (Same result can be obtained.)

   Open either ComodoJapanCA.crt or ComodoJapanCA.cer.

2. Press the “General” tab of the displayed Certificate information, and press “Install Certificate” button.



Certificate Information

This certificate is intended for the following purpose(s):

- Protects e-mail messages
- Proves your identity to a remote computer
- Ensures the identity of a remote computer
- Ensures software came from software publisher
- Protects software from alteration after publication
- 1.3.6.1.4.1.6334.1.0

* Refer to the certification authority's statement for details.

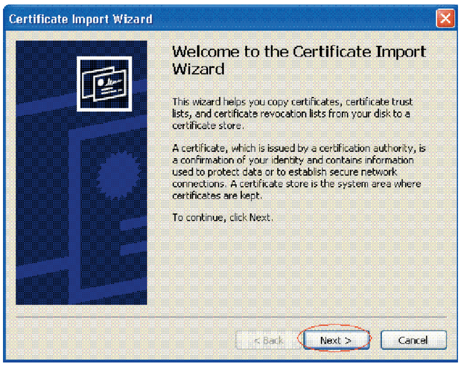
Issued to: Comodo Japan CA

Issued by: GTE CyberTrust Global Root

Valid from 6/17/2004 **to** 8/27/2012

Fig 7.5.43

3. The “Certificate Import Wizard” is displayed. Install Certificate in accordance with the displayed procedure. Select “Automatically select the certificate store based on the types of certificate”. Then, the Certificate will be installed automatically.



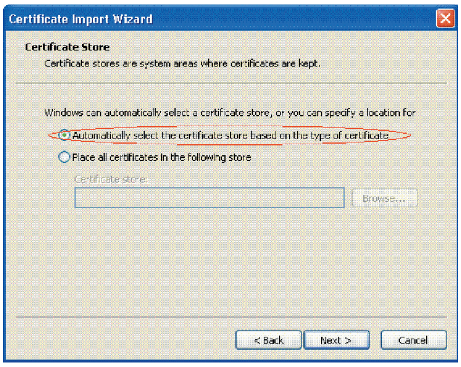
Welcome to the Certificate Import Wizard

This wizard helps you copy certificates, certificate trust lists, and certificate revocation lists from your disk to a certificate store.

A certificate, which is issued by a certification authority, is a confirmation of your identity and contains information used to protect data or to establish secure network connections. A certificate store is the system area where certificates are kept.

To continue, click Next.

Fig 7.5.44



Certificate Store

Certificate stores are system areas where certificates are kept.

Windows can automatically select a certificate store, or you can specify a location for

● Automatically select the certificate store based on the type of certificate

○ Place all certificates in the following store

Certificate store:

Fig 7.5.45

7.5.5.5 Other questionnaires

Other probable questionnaires are described below.

7.5.5.5.1 Time required for creation of Certificate

Time required for creation of Certificate Time is shown for each key size.
(It can change in the range of -30 to +30%.)

Table 7.5.9 Certificate creation time (For RSA) Unit is in second.

RSA		Open key size		
		512bits	1,024bits	2,048bits
Creation of self-sign certificate		6	8	25
Certificate of certifying authority	Creation of CSR *1	7	10	23
	Installation of certificate	6	6	6

*1: CSR (Certificate Signing Request)

7.5.5.5.2 Communication time when the encryption function is enabled

Result of comparison between the communication time using encryption and the normal communication is shown below.
Web top page browsing time is shown.
Web top page is the web screen for setting printer, and is displayed first.

Table 7.5.10 Creation time (For RSA) of web top page Unit is in second.

RSA		Open key size			Without encryption
		512bits	1,024bits	2,048bits	
Strength of encryption	Strong	5	5	7	3
	Standard	5	5	7	
	Weak	4	5	7	

Also, communication time for IPP print is shown below.
PCL NULL Data (31,464,978 bytes) is used as the print job.
(NULL Data is the data that receives process which enables measurement of maximum communication speed of network communication by minimizing the PCL processing.)

Table 7.5.11 IPP print (For RSA) Unit is in second.

RSA		Open key size			Without encryption
		512bits	1,024bits	2,048bits	
Strength of encryption	Strong	52	52	52	41
	Standard	53	52	52	
	Weak	51	52	53	

7.5.5.5.3 Can the encrypted printing be performed by any printer other than IPP?

Answer: Any printer other than IPP cannot encrypt printing.
Only the IPP printing can encrypt printing.

7.5.5.5.4 What will happen if SSL/TLS is turned OFF after Certificate has been created (or installed)?

Answer: Certificate will be kept saved as it is.
If SSL/TLS is turned ON again, the Certificate becomes usable.

7.5.5.5.5 Want to change the port number

Answer: The port number during the SSL/TLS communication is fixed to 443.
It cannot be changed.

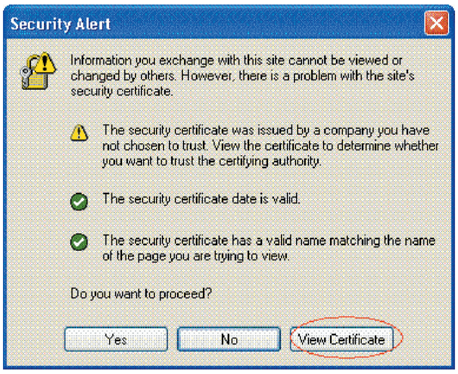
7.5.5.5.6 The error message “The security certificate was issued by a company you have not chosen to trust. View the certificate to determine whether you want to trust the certifying authority” is displayed.

If this error is indicated, it means that the certificate which is installed in a printer is self-sign certificate. In the case of self-sign certificate, error (security warning) will not be displayed if the self-sign certificate of printer is installed in the client PC.
In the case of certificate of certifying authority, error (security warning) will not be displayed if the CA certificate of certifying authority is installed in the client PC.

Solution: Install certificate in the client PC (browser).

[Procedure]

1. Click the “View Certificate” button on the error (security warning) screen.



Information you exchange with this site cannot be viewed or changed by others. However, there is a problem with the site's security certificate.

The security certificate was issued by a company you have not chosen to trust. View the certificate to determine whether you want to trust the certifying authority.

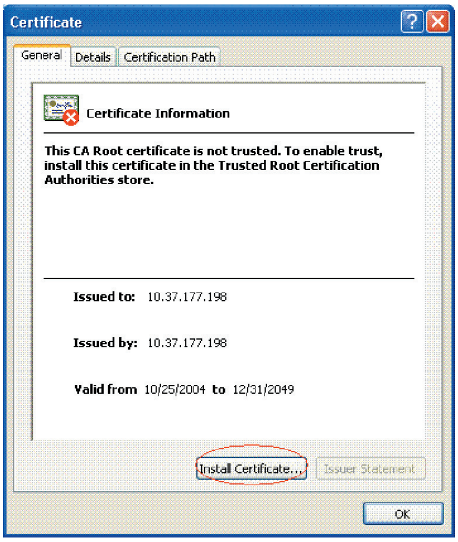
The security certificate date is valid.

The security certificate has a valid name matching the name of the page you are trying to view.

Do you want to proceed?

Fig 7.5.46

2. Press the “General” tab of the displayed Certificate information, and press “Install Certificate” button.



Certificate Information

This CA Root certificate is not trusted. To enable trust, install this certificate in the Trusted Root Certification Authorities store.

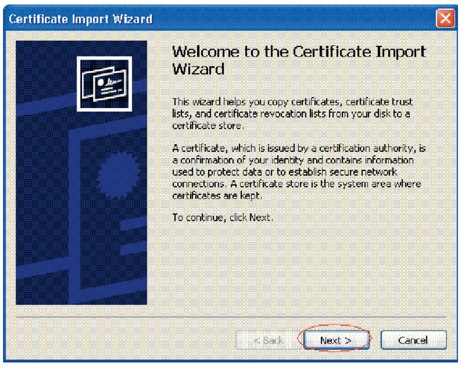
Issued to: 10.37.177.198

Issued by: 10.37.177.198

Valid from 10/25/2004 **to** 12/31/2049

Fig 7.5.47

3. The “Certificate Import Wizard” is displayed. Install Certificate in accordance with the displayed procedure. Select “Automatically select the certificate store based on the types of certificate”. Then, the Certificate will be installed automatically.



Certificate Import Wizard

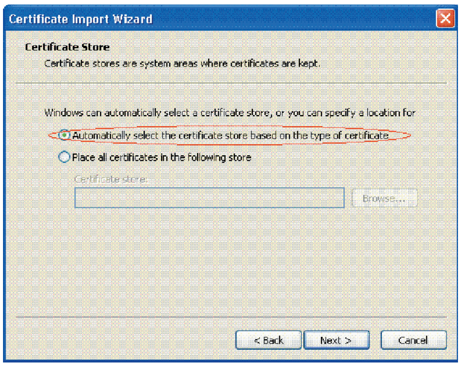
Welcome to the Certificate Import Wizard

This wizard helps you copy certificates, certificate trust lists, and certificate revocation lists from your disk to a certificate store.

A certificate, which is issued by a certification authority, is a confirmation of your identity and contains information used to protect data or to establish secure network connections. A certificate store is the system area where certificates are kept.

To continue, click Next.

Fig 7.5.48



Certificate Import Wizard

Certificate Store

Certificate stores are system areas where certificates are kept.

Windows can automatically select a certificate store, or you can specify a location for

● Automatically select the certificate store based on the type of certificate

○ Place all certificates in the following store

Certificate store:

Fig 7.5.49

7.5.5.5.7 The error message “Name of security certificate is invalid or does not match the site name” is displayed.

It means that the IP address of printer is different from the IP address that is described on certificate, or from the IP address when the certificate is created.

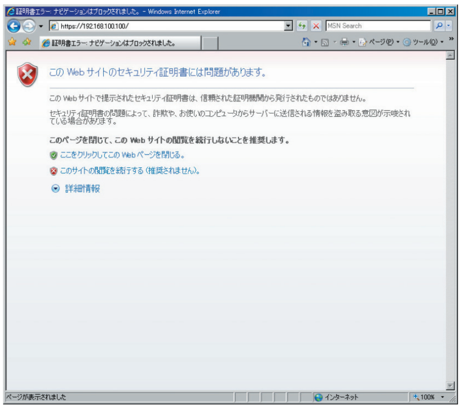
Solution: Return the IP address of printer back to the address when self-sign certificate is created, or to the address when CSR is created.

7.5.5.6 Restrictions when using Internet Explore 7

Several restrictions are imposed when using Internet Explore 7. This is because security restriction became more severe in IE7.

7.5.5.6.1 Warning indication when SSL is made valid by self-sign certificate

When SSL is made valid by self-sign certificate, the following picture is obtained when web page is accessed, and page will not be displayed.


証明書エラー: ナビゲーションはブロックされました。 - Windows Internet Explorer
https://192.168.100.100/
MSN Search
証明書エラー: ナビゲーションはブロックされました。
ページ(P)
ツール(O)
ページが表示されました
インターネット
100%

この Web サイトのセキュリティ証明書には問題があります。

この Web サイトで提示されたセキュリティ証明書は、信頼された証明機関から発行されたものではありません。

セキュリティ証明書の問題によって、詐欺や、お使いのコンピュータからサーバーに送信される情報を盗み取る意図が示唆されている場合があります。

このページを閉じて、この Web サイトの閲覧を続行しないことを推奨します。

ここをクリックしてこの Web ページを閉じる。

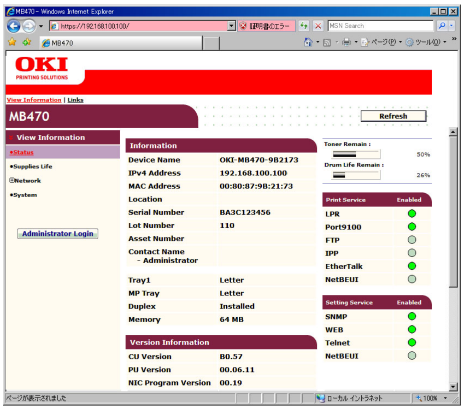
このサイトの閲覧を続行する (推奨されません)。

詳細情報

Fig 7.5.50

Web display when SSL is made valid by self-sign certificate

Solution: When "Continue browsing this site (not recommended)" is clicked on the warning screen, the web page will be displayed.
However, it has no effect on the web page function. It can be used for browsing or to change setting of printer setup.


MB470 - Windows Internet Explorer
https://192.168.100.100/
証明書のエラー
MSN Search
MB470
ページ(P)
ツール(O)
OKI
PRINTING SOLUTIONS
View Information | Links
MB470
Refresh
View Information
•Status
•Supplies Life
⊞Network
•System
Administrator Login
ページが表示されました
ローカル イントラネット
100%

Information	
Device Name	OKI-MB470-9B2173
IPv4 Address	192.168.100.100
MAC Address	00:80:87:9B:21:73
Location	
Serial Number	BA3C123456
Lot Number	110
Asset Number	
Contact Name - Administrator	
Tray1	Letter
MP Tray	Letter
Duplex	Installed
Memory	64 MB

Version Information	
CU Version	B0.57
PU Version	00.06.11
NIC Program Version	00.19

Toner Remain : 50%

Drum Life Remain : 26%

Print Service	Enabled
LPR	●
Port9100	●
FTP	○
IPP	○
EtherTalk	●
NetBEUI	○

Setting Service	Enabled
SNMP	●
WEB	●
Telnet	●
NetBEUI	○

Fig 7.5.51

Web page display when "Continue browsing this site (not recommended)" is clicked.

7.5.5.6.2 E-mail send test function does not work

This is the function to perform the E-mail send test from the following page in the web page: [Administrator log-in] – [Network] – [Email] – [Send setup].

In the Internet Explore 7 default setup, this [Send test] cannot be made.

Solution: To execute [Send test], IE7 setup should be modified.
From the IE7 menu, select the menu: [Tool] – [Security level customize] –[Approving web site to request information input using the scripted window] and make it Enable.

7.5.6 Fax Error Code List

An error code list contained in Fax Activity Report

Table 7.5.12

Disconnect codes	Meanings
Start and termination of a call	
0000	Terminated normally
0001	Procedure not established after acceptance of a call (T1 timeout or incoming call timeout)
0002	A call aborted from +FKS or <CAN>
Transmission phase A	
0011	T1 timeout (or incoming call timeout)
0012	Received **a JM signal declaring inability of the V.34** function
Transmission phase B	
0021	Inability of a machine at the other end to receive or send
0022	Command reception error
0023	Received an invalid command in a statement
0024	Response reception error
0025	No response to DCS sent three times
0026	Received DIS/DTC three times (DCS not recognized)
0027	Training failure at 2400 bps
0028	Received an invalid command in a response
0029	Unspecified DIS (bit 49) on the machine at the other end
002a	Unspecified DIS (bit 50) on the machine at the other end
002b	Unspecified DCS (bit 50) on the machine at the other end
002c	Unspecified DCS (bit 47) on the machine at the other end
Transmission phase D	
0051	Response reception error
0052	No response to MPS sent three times
0053	Received an invalid response to MPS
0054	No response to EOP sent three times
0055	Received an invalid response to EOP
0059	No response to PPSMPS sent three times
005a	Received an invalid response to PPSMPS
005b	No response to PPSEOP sent three times
005c	Received an invalid response to PPSEOP
005f	No response to PPSNULL sent three times
0060	Received an invalid response to PPSNULL
0061	No response to CTC sent three times
0062	Received an invalid response to CTC
0063	No response to EOR (NULL/MPS/EOP) sent three times
0064	Received an invalid response to EOR (NULL/MPS/EOP)
0065	No response to RR sent three times
0066	Received an invalid response to RR
0067	Received RTN to 2400 bps
0068	ECM T5 timeout
0069	Received ERR to EORNULL

Disconnect codes	Meanings
Reception phase B	
0071	Response reception error
0072	Command reception error
0073	T2 timeout without receiving expected pages
0074	T1 timeout after receiving EOM
0091	EOL not detected in 13 seconds (NECM mode) or T1 timeout (ECM mode) without receiving frames
Manufacturer definitions	
00a1	Received an invalid command in a response
00a2	Received an invalid command in a statement
00a4	NULL EOR received, ERR send after DCN received
00e0	Modem hang-up
00e1	Received V.34 abort
00e2	Timeout for V.34 control channel
00e3	Timeout for V.34 primary channel
00e4	Received ATD and ATA commands without line connection
00e5	Connected to a digital line (not a PSTN line)
00e6	Modem abnormality (CX20493)
00e7	Timeout for modem transmission data
1000	OK (normal)
1001	No carrier
1002	Ring
1003	Error
1004	No dial tone
1005	Busy

7.6 Fuse Checking

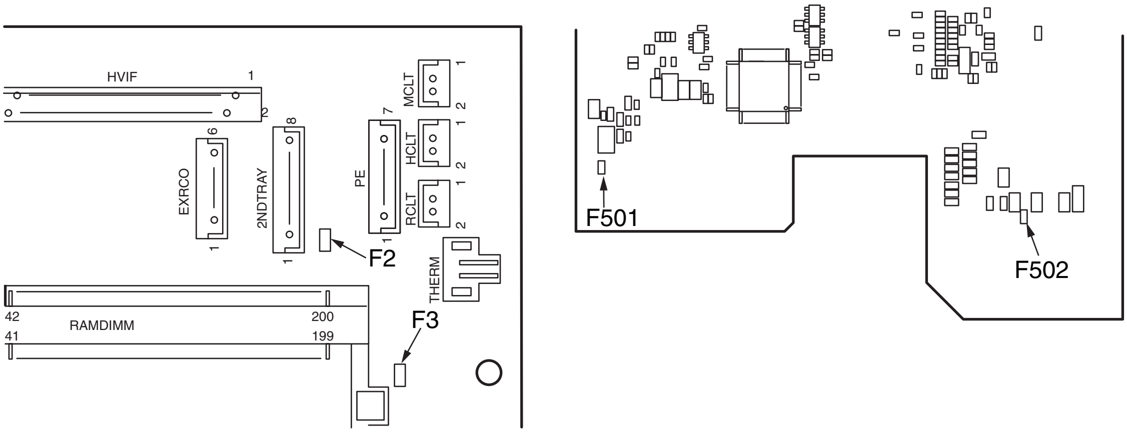
If the following errors occur , please check each fuse of the main board(86M PCB) (Please refer to Table 7.6.1)

Table 7.6.1 Fuse errors

Fuse Name		Error Description	Insert Point
Main Board (86M PCB)	F2	Cover open	Sensor etc 5V
	F3	120 FAN ERROR Hopping error	Solenoid,FAN 2nd Tray Fuse cutter 24V
	F501	FAX PCB does not work	FAX PCB 5V
	F502	Service Call 134 Error	LED HEAD 5V

Table 7.6.2 Fuse information list and Mounting place

		Maker name	Model name	Figure No.	Rated current	Rated voltage	Mounting place
Main Board (86M PCB)	F2,F3	LITTLE	0494 002NR	5402212S0202	2A	32V	Please refer to compornent side drawing of 86M board parts
	F501	LITTLE	0494 001NR	5402212S0102	1A	32V	Please refer to solder side drawing of 86M board parts
	F502	LITTLE	0494 003NR	5402212S0302	3A	32V	Please refer to solder side drawing of 86M board parts



Compornent side drawing of 86M board

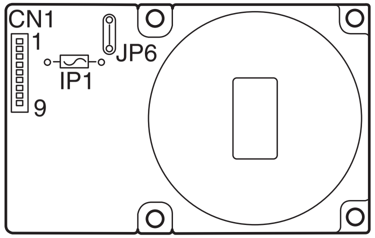
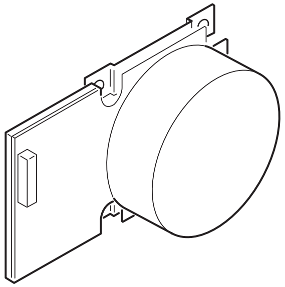
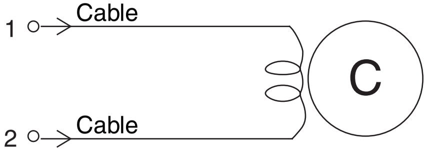
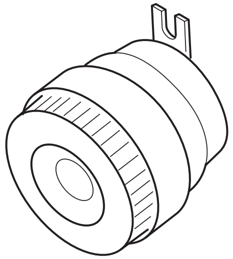
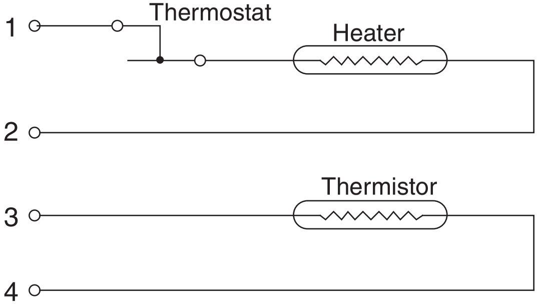
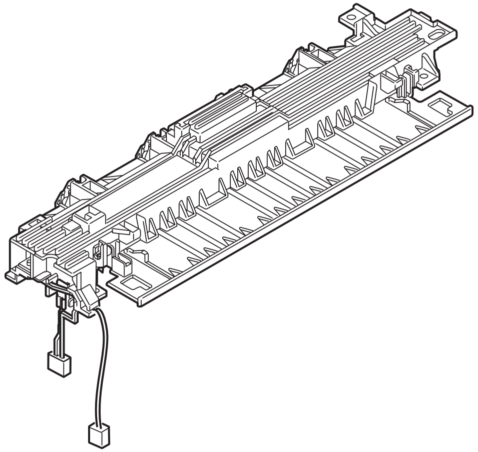
Solder side drawing of 86M board

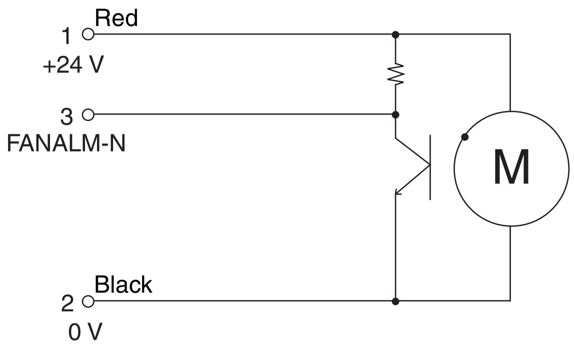
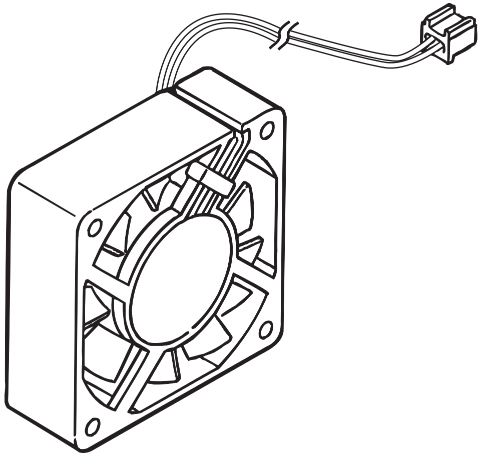
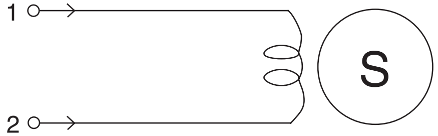
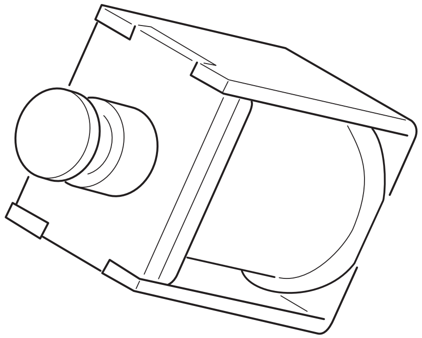
Fig 7.6.1

8. CONNECTION DIAGRAMS

8.1 Resistance value

Table 8.1.1

Unit	Circuit Diagram	Part Diagram	Resistance Value
	 CN1 1 9 IP1 JP6		Between pin3(contact) of CN1 and JP6:1Ω or less
Clutch (Hopping) (Regist) (MP Tray)	 1 Cable 2 Cable C ※Cable Color : Black (Hopping) : Blue (Regist) : Yellow (MP Tray)		Between 1 to 2 pin 192Ω
Fuser Unit Assy	 1 Thermostat Heater 2 Thermistor 3 4		1Between 1 to 2 pin: 1.6 Ω Between 3 to 4 pin: 360KΩ At the ambient temperature (25°C)

Unit	Circuit Diagram	Part Diagram	Resistance Value
FAM Motor	 1 Red +24 V 3 FANALM-N 2 Black 0 V M		
Solenoid			Between 1 to 2 pin: 89Ω

8.2 Component layout

(1) Main circuit board PCB used for MB470 and MB480 (86M- PCB)

Component side

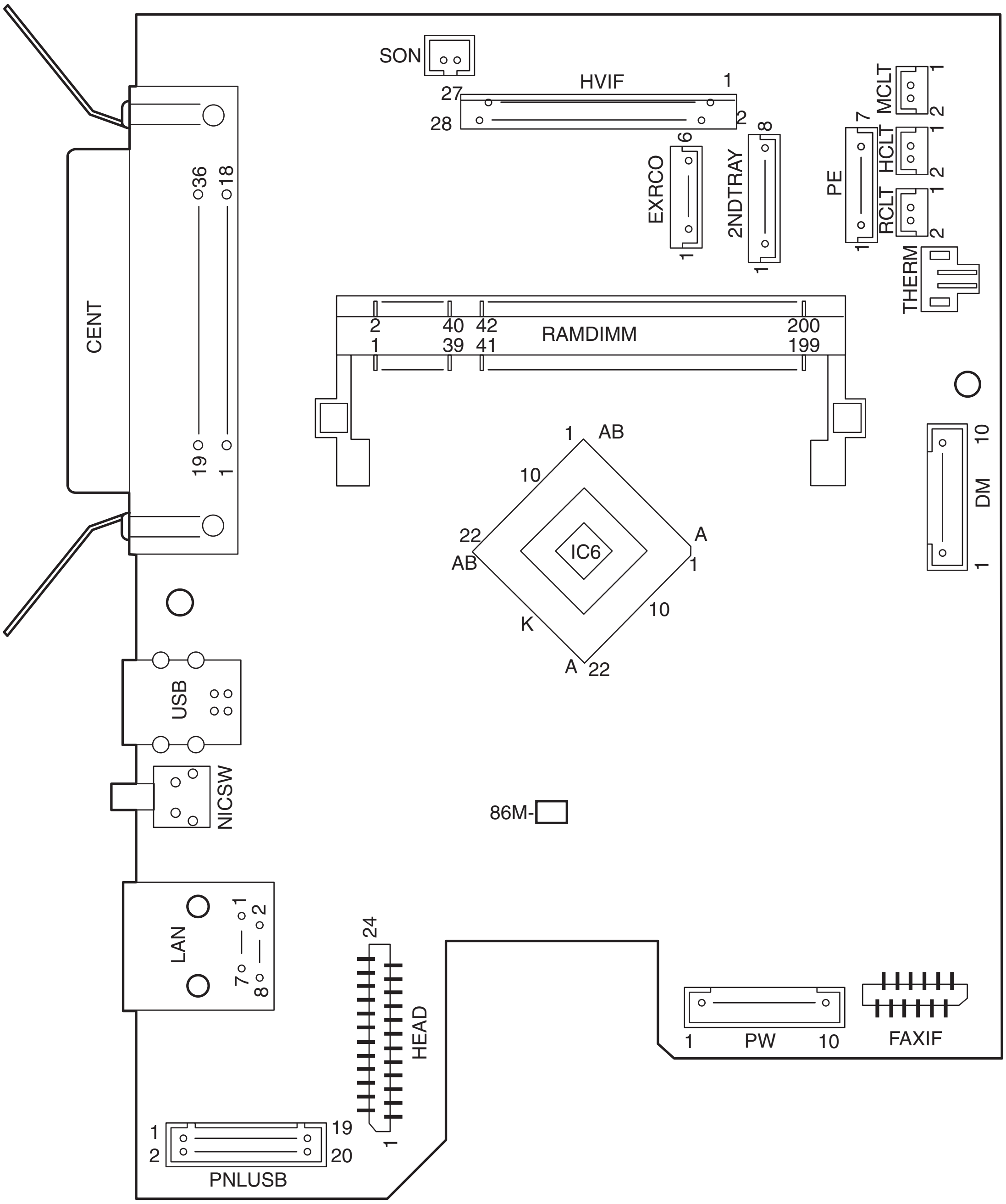

SON
HVIF
27
28
1
2
CENT
36
18
19
1
EXRCO
6
1
2NDTRAY
8
1
PE
7
1
MCLT
HCLT
RCLT
1
2
THERM
RAMDIMM
2
1
40
39
42
41
200
199
DM
10
1
IC6
1
AB
10
22
A
K
USB
NICSW
86M-
LAN
7
8
HEAD
24
PW
FAXIF
19
20
PNLUSB

Fig 8.2.1

(2) Main circuit board PCB used for MB460 (86M-2 PCB)

Component side

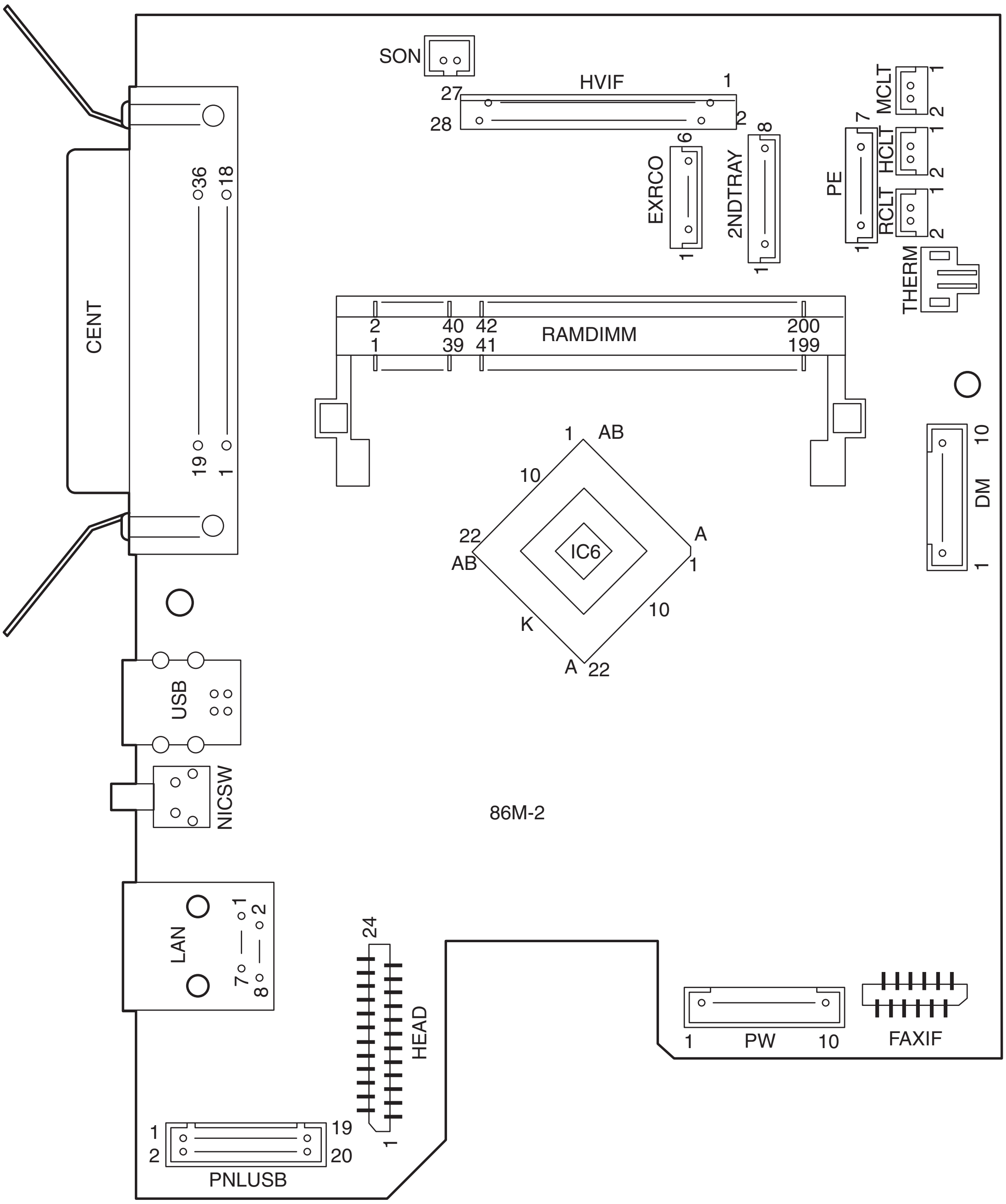

SON
HVIF
27
28
1
2
EXRCO
6
1
2NDTRAY
8
1
PE
7
1
MCLT
HCLT
RCLT
1 2
THERM
CENT
36
18
19
1
RAMDIMM
2
1
40
39
42
41
200
199
IC6
1
AB
10
22
A
K
DM
10
1
USB
NICSW
LAN
1
2
7
8
86M-2
HEAD
24
PNLUSB
19
20
PW
FAXIF

Fig 8.2.2

(3) Low-voltage power supply PCB

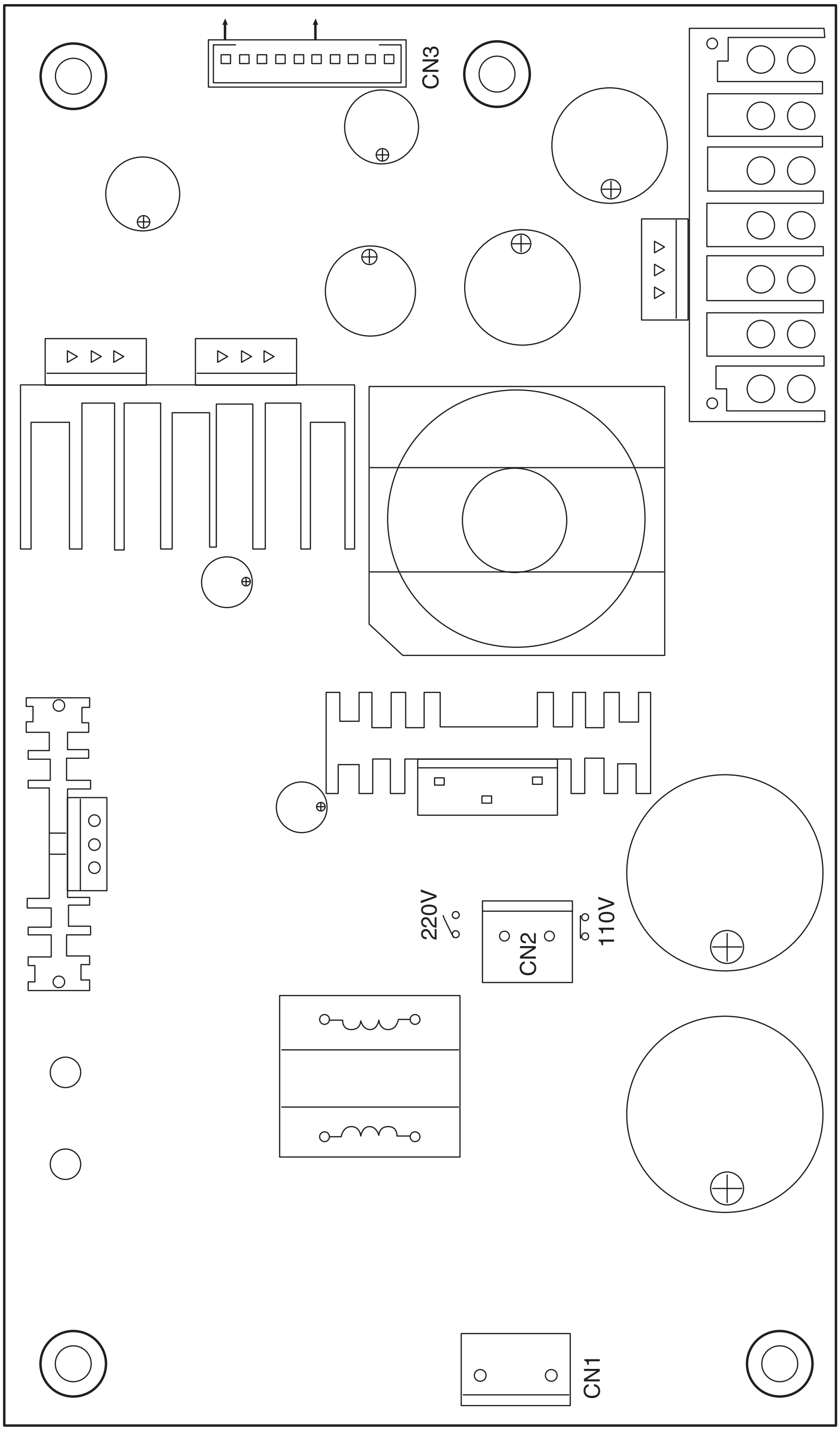

CN3
220V
CN2
110V
CN1

Fig 8.2.3

(4) High-Voltage Power/Sensor Board

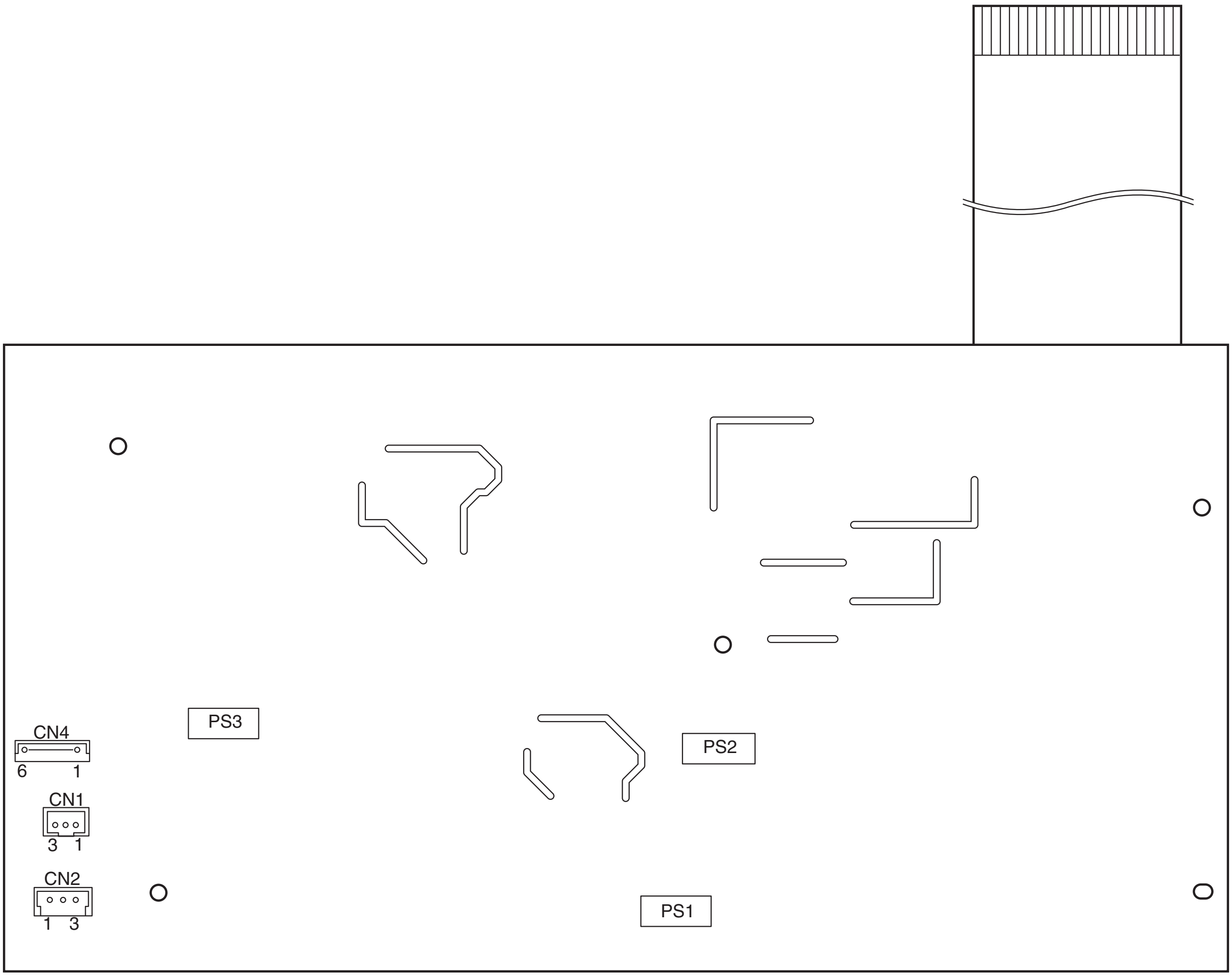

CN4
6
1
CN1
3
1
CN2
1
3
PS3
PS2
PS1

Fig 8.2.4

(5) FAX circuit board PCB used for MB470 and MB480 (FX5-PCB)

Component side

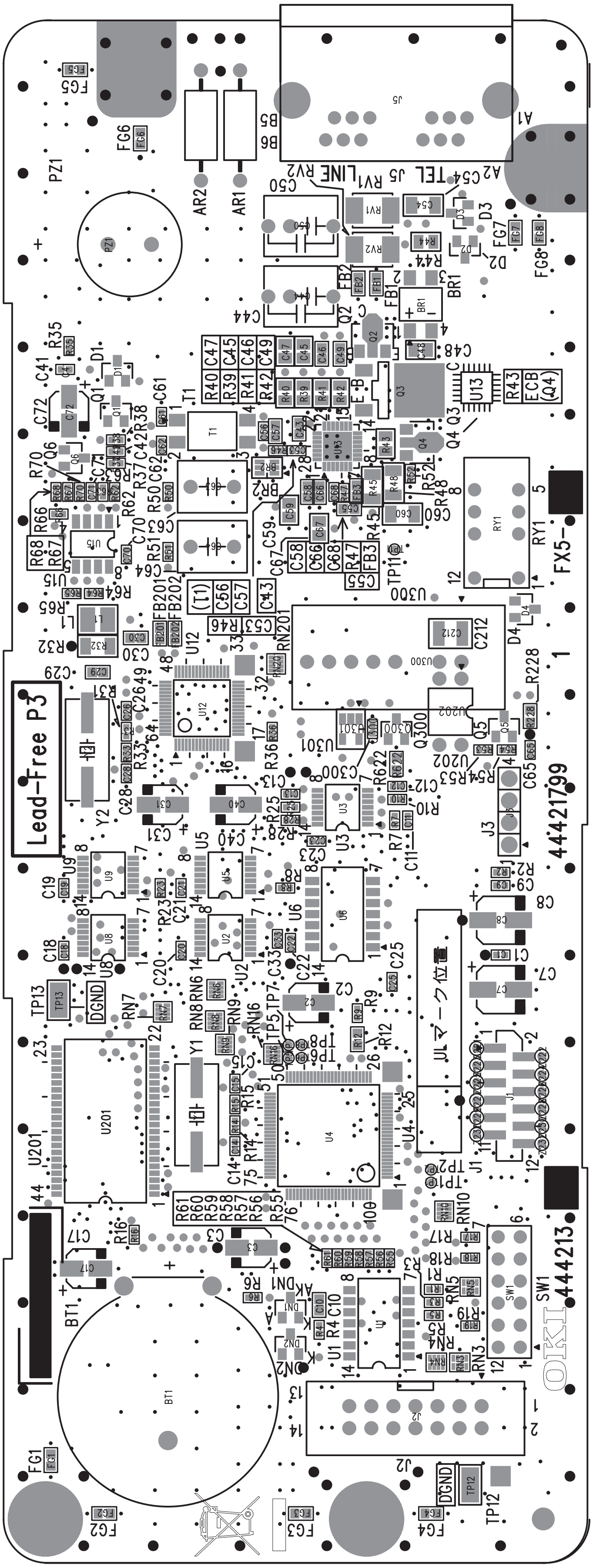

Lead-Free P3
FX5-
44421799
444213
OKI
LINE
TEL
J5
U12
U4
U201
U300
BT1
J1
J2
J3
SW1
RY1
DGND
JLマーク位置

Fig 8.2.5

Solder side

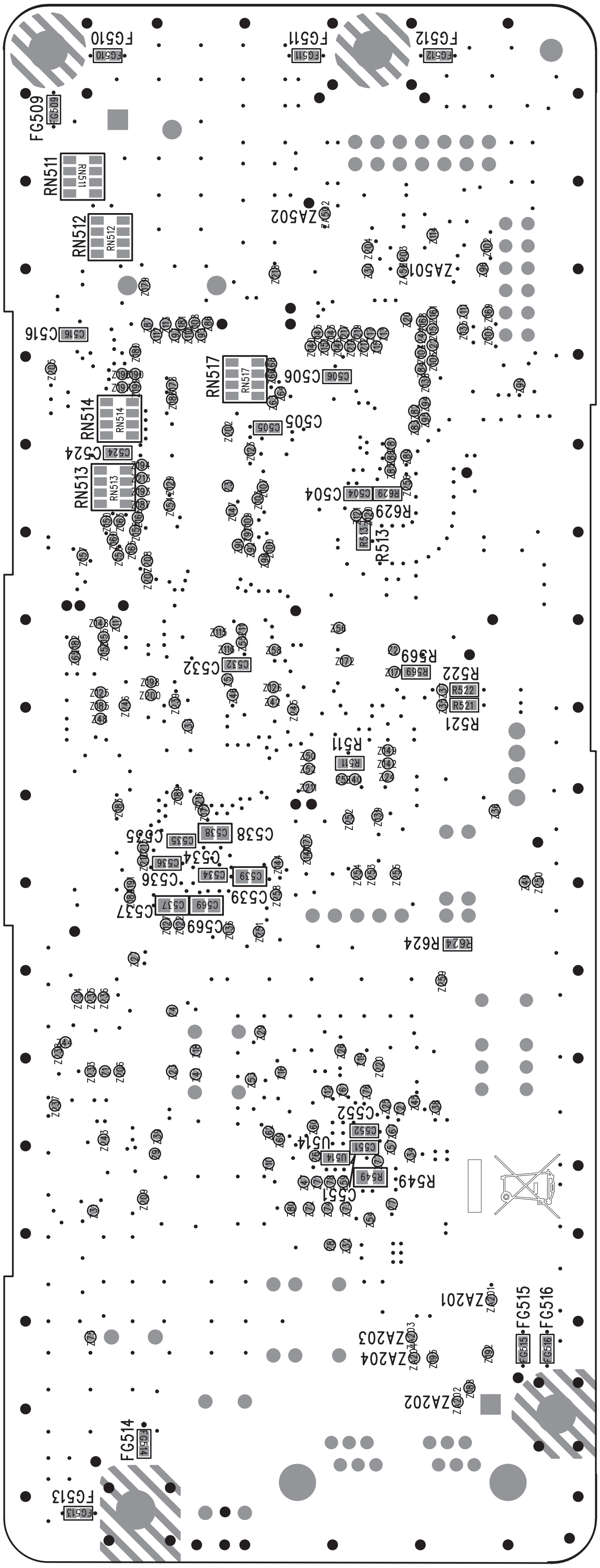

FG510
FG511
FG512
FG509
RN511
RN512
ZA502
ZA501
C516
RN517
C506
RN514
C505
C524
RN513
C504
R629
R513
R569
C532
R522
R521
R511
C538
C535
C534
C536
C539
C537
C569
R624
C552
U514
R549
C551
ZA201
FG515
FG516
ZA203
ZA204
ZA202
FG514
FG513

Fig 8.2.6

APPENDIX C MAINTENANCE MANUAL FOR SECOND TRAY UNIT

1 Overview

1.1 Function

The extended paper feed unit is installed under the printer. the device performs the auto paper feed by the operation of the pulse motor (hopping) to control a signal from the printer.
The main function is as follows:

- Available paper:

[Paper Type]

- Standard paper: (Ream weight 55 to 105 kg) A4, A5, B5, Custom, LETTER, Executive, LEGAL 13, LEGAL14
  *Tthe custom is 148 to 215.9mm for width and 210 to 355.6 mm for length.

[Weight/ Thickness]

- Standard paper (Ream weight 55 to 105kg)

1.2 Exterior and Parts Name

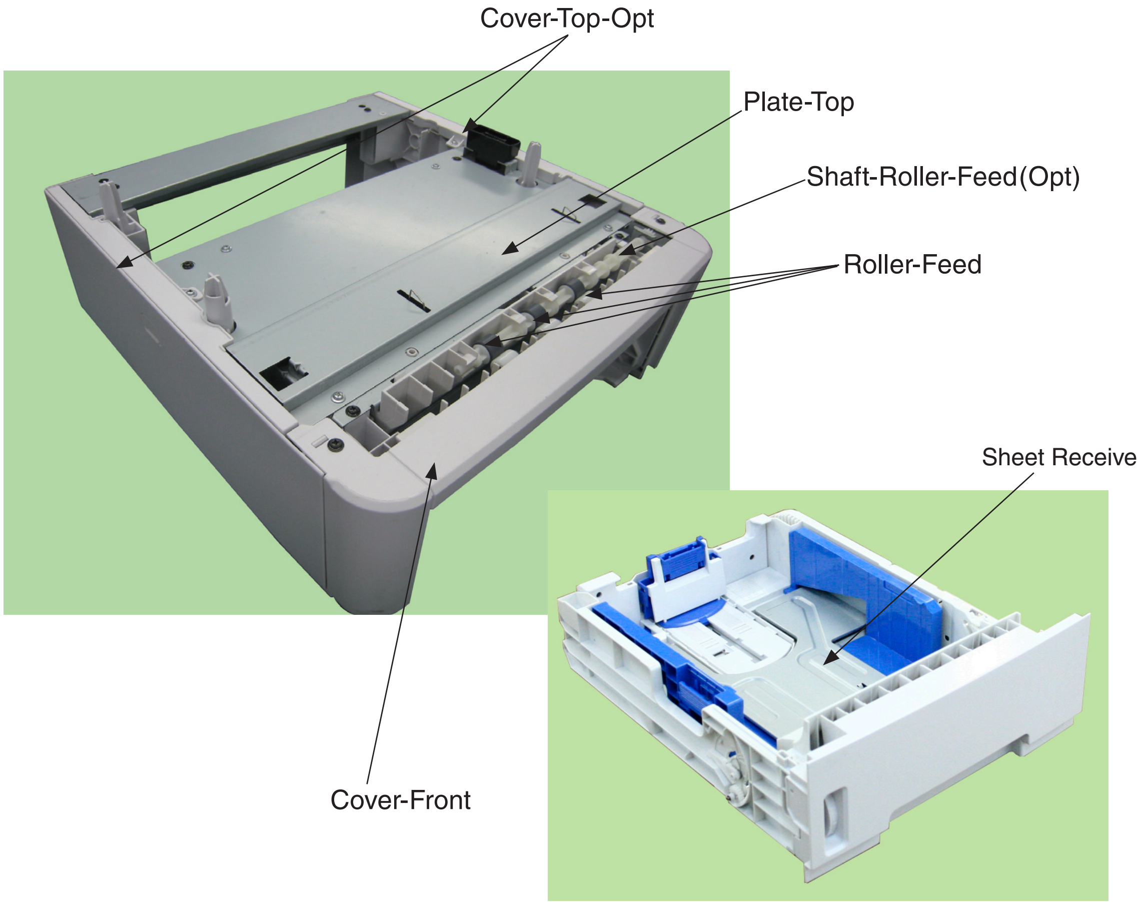

Cover-Top-Opt
Plate-Top
Shaft-Roller-Feed(Opt)
Roller-Feed
Sheet Receive
Cover-Front

Fig 1.2.1 Exterior and Parts Name

2. Description for Operation of Second Tray unit

Second Tray unit receives a signal from the printer main body and feeds paper to the printer main body.

Paper Feed from the Second Tray unit (Tray2)

1. When a signal is received from the printer main body, the pulse motor is rotated (in a clockwise direction), and by setting the paper feed clutch to ON, the paper feed roller and pick-up roller are rotated. Therefore, paper in a tray is fed.
2. After paper is carried by the transfer roller (Tray 2) and transfer roller (main body) to set the entrance sensor lever to ON, the paper goes into the regist roller, and a certain volume of paper is carried. (the skew is adjusted due to this operation.)
3. By setting the regist clutch to ON, the paper is carried by the regist roller.

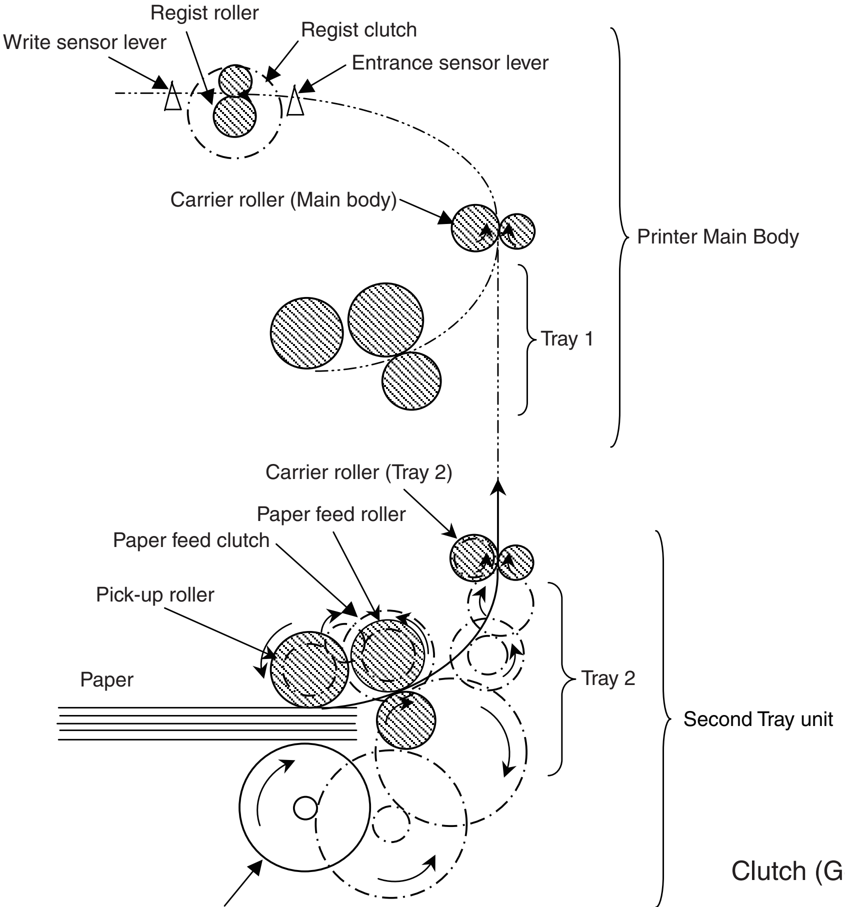

Regist roller
Write sensor lever
Regist clutch
Entrance sensor lever
Carrier roller (Main body)
Printer Main Body
Tray 1
Carrier roller (Tray 2)
Paper feed roller
Paper feed clutch
Pick-up roller
Paper
Tray 2
Second Tray unit
Pulse motor
(clockwise direction)

Fig 2.1.1

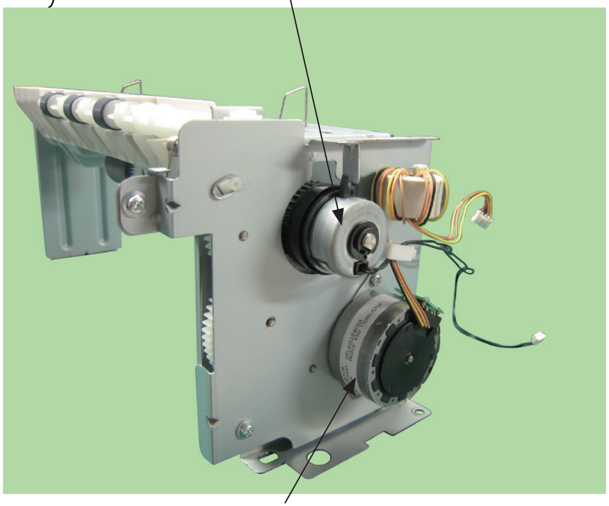

Clutch (Gear-Assy-Clutch)
Pulse Motor(Motor-Pulse (Regist)

Fig 2.1.2

3. Part Replacement

This section describes how to disassemble/ assemble/ install in the field. This section describes how to disassemble, however, as for the assembly, take the opposite sequence to the disassembling procedure.

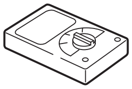
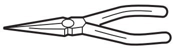
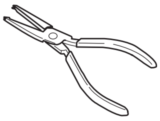
3.1 Precautions on replacing parts

(1) Make sure to turn off the printer switch and remove the printer from the device before the part replacement.
(2) Do not disassemble the printer while it operates normally.
(3) Do not disassemble beyond the range. (Do not remove parts other than parts shown in the part replacement procedure.)
(4) Use specified maintenance tools.
(5) Disassemble the parts in the specified order. Parts may be damaged if they are not disassembled in proper order.
(6) Set small items such as screws and collars in their original position temporarily since they can be lost easily.
(7) Do not use gloves that build up static electricity when treating a print circuit board
(8) Do not place the print circuit board on the device or floor directly.

[Maintenance Tool]

The following table shows the tools for the print board/ Assy/ Unit replacement in the field.

Table 3.1.1 Maintenance Tools

No.	Maintenance Tool		Amount	Purpose	Remarks
1		No.2-220 Phillips screwdriver	1	3 to 5 mm screw	
2		No.3-200 screwdriver	1		
3		Digital multi-meter	1		
4		Pliers	1		
5		E-ring plier	1	For removing and installing E rings	

3.2 Arrangement of Parts

The arrangement of main parts is as shown in the following figure.

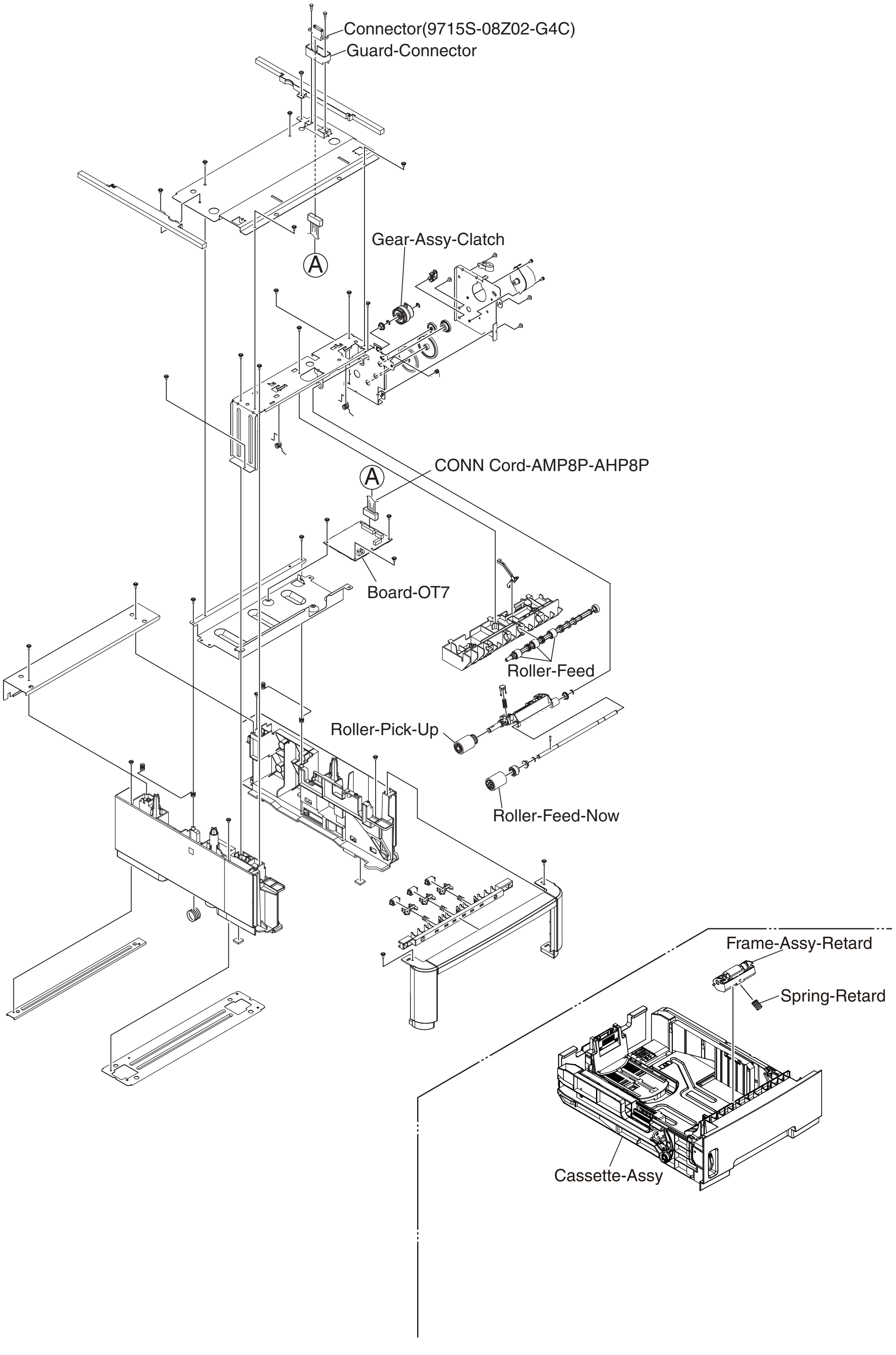

Connector(9715S-08Z02-G4C)
Guard-Connector
Gear-Assy-Clatch
A
CONN Cord-AMP8P-AHP8P
A
Board-OT7
Roller-Feed
Roller-Pick-Up
Roller-Feed-Now
Frame-Assy-Retard
Spring-Retard
Cassette-Assy

Fig 3.2.1

3.3 How to Replace Parts

This section describes how to replace parts shown in the following disassembling procedure.
In the part replacement procedure, parts on which a part number is displayed in white figure in the black circle are RSPL.

Second Tray unit
- Roller-Pick-Up, Roller-Feed-Now (3.3.1)
- Guard-Connector, Connector(9715S-08Z02-G4C) (3.3.2)
- Roller-Feed (3.3.3)
- Board-OT7 (3.3.4)
- CONN Cord-AMP8P-AMP8P (3.3.5)
- Gear-Assy-Clatch (3.3.6)
- Frame-Assy-Retard, Spring-Retard (3.3.7)

3.3.1 Roller-Pick-Up, Roller-Feed-Now

(1) Remove Cassette-Assy.

(2) Push the claw in the direction of the arrow to remove Roller-Pick-Up ❶.

(3) Push the claw in the direction of the arrow to remove Roller-Feed-NOW ❷.

(4) As for reinstalling, take the opposite sequence to removal sequence.

(Precautions on reinstalling)

1. When reinstalling Roller-Pick-Up ❶, push it until it clicks.
2. When installing Roller-Feed-Now ❷, push it until it clicks.

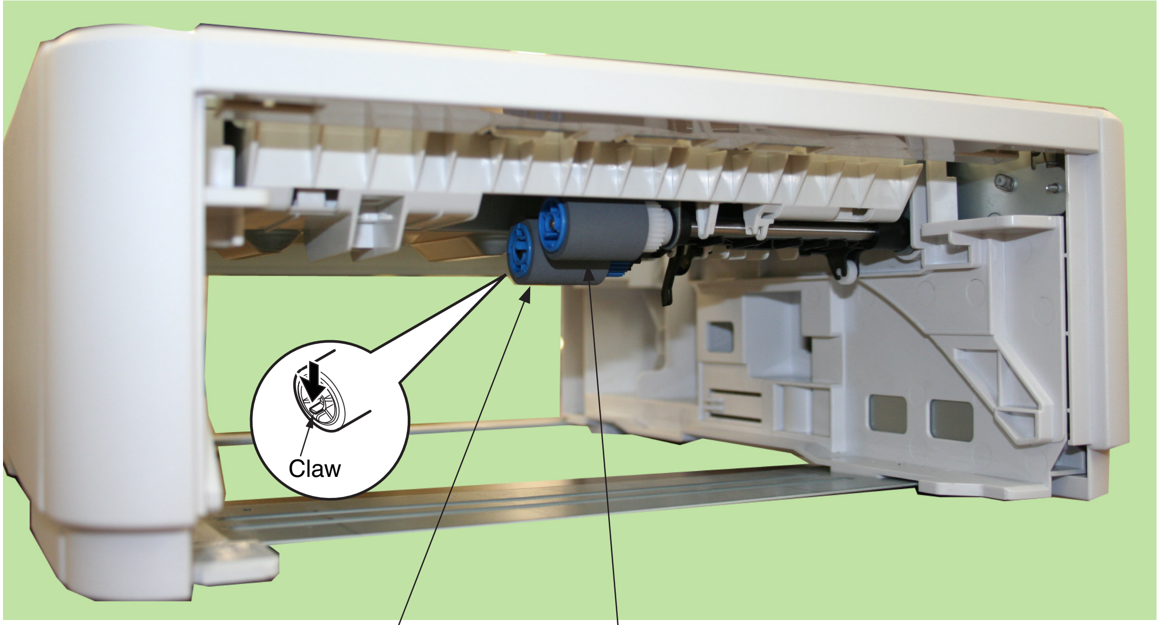


Fig 3.3.1

3.3.2 Guard-Connector, Connector (9715S-08Z02-G4C)

(1) Turn off the printer and pull the AC cord. Remove the printer from the device.

(2) Remove two Screw-Shoulders ①.

(3) Remove the connector ② to remove Guard-Connector ❸, Connector (9715S-08Z02-G4C) ❹.

(4) As for reinstalling, take the opposite sequence to removal sequence.

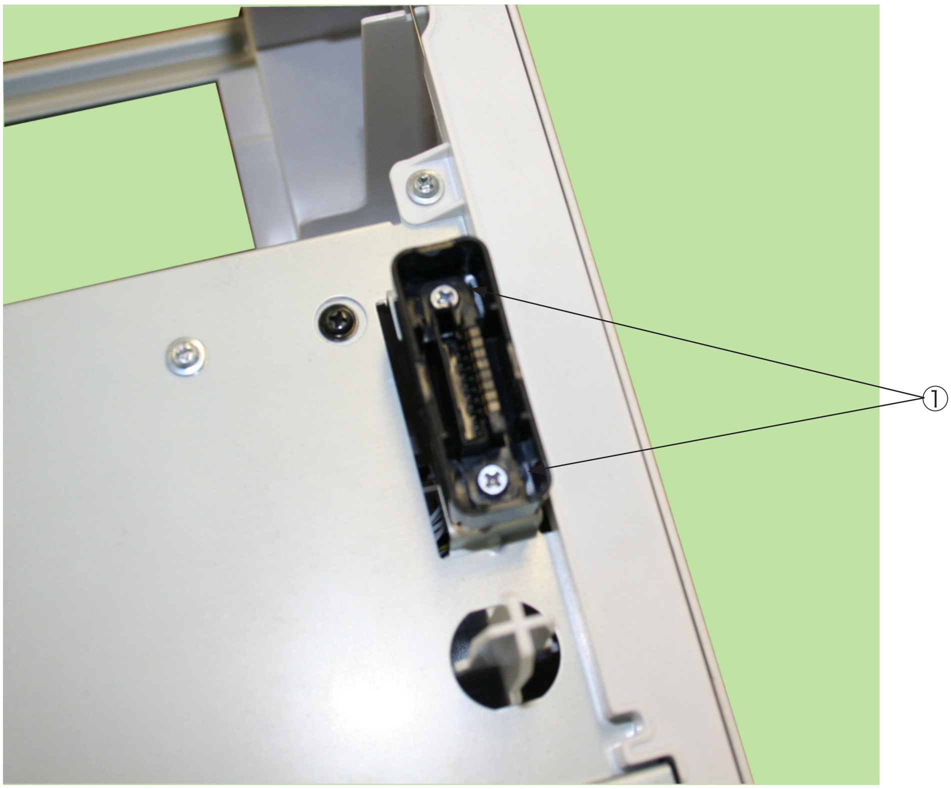


Fig 3.3.2

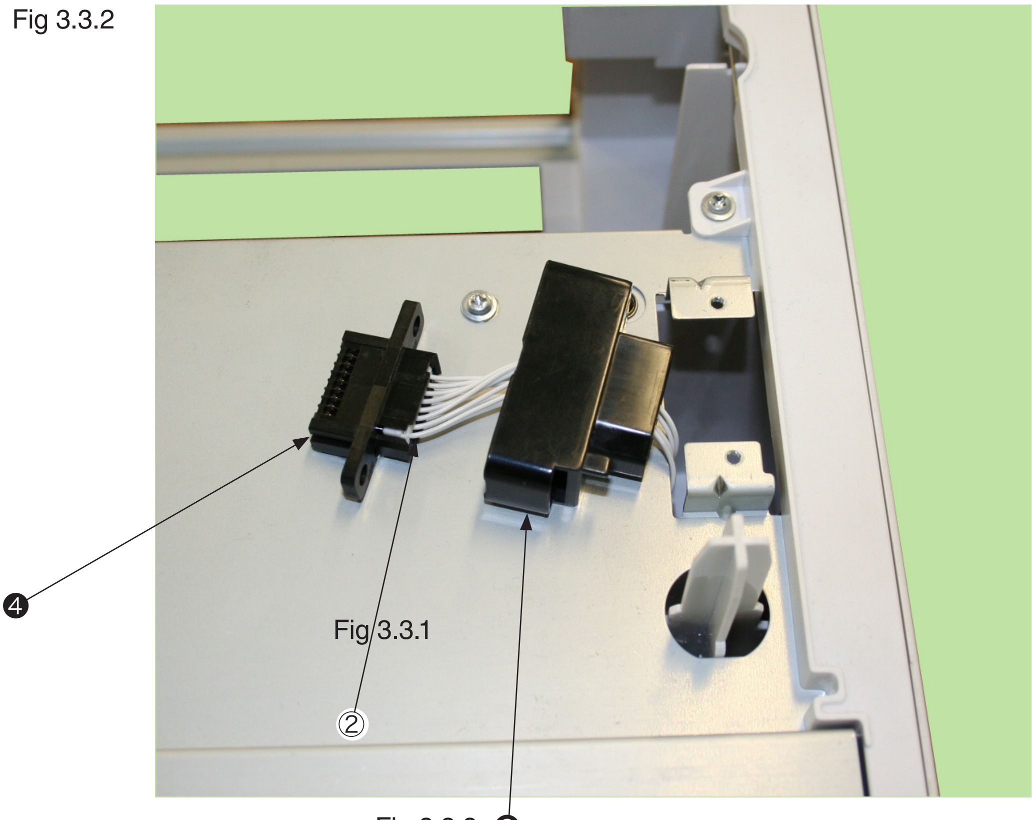


Fig 3.3.3

3.3.3 Roller-Feed

(1) Turn off the printer and pull the AC cord. Remove the printer from the device.

(2) Remove the 4 screws (Black) ①, Remove the clamp of claw at the 2 places and remove Cover-Front ②.

(3) Slide the left side of Shaft-Roller-Feed ③ to the front, and remove three Roller-Feeds ❹.

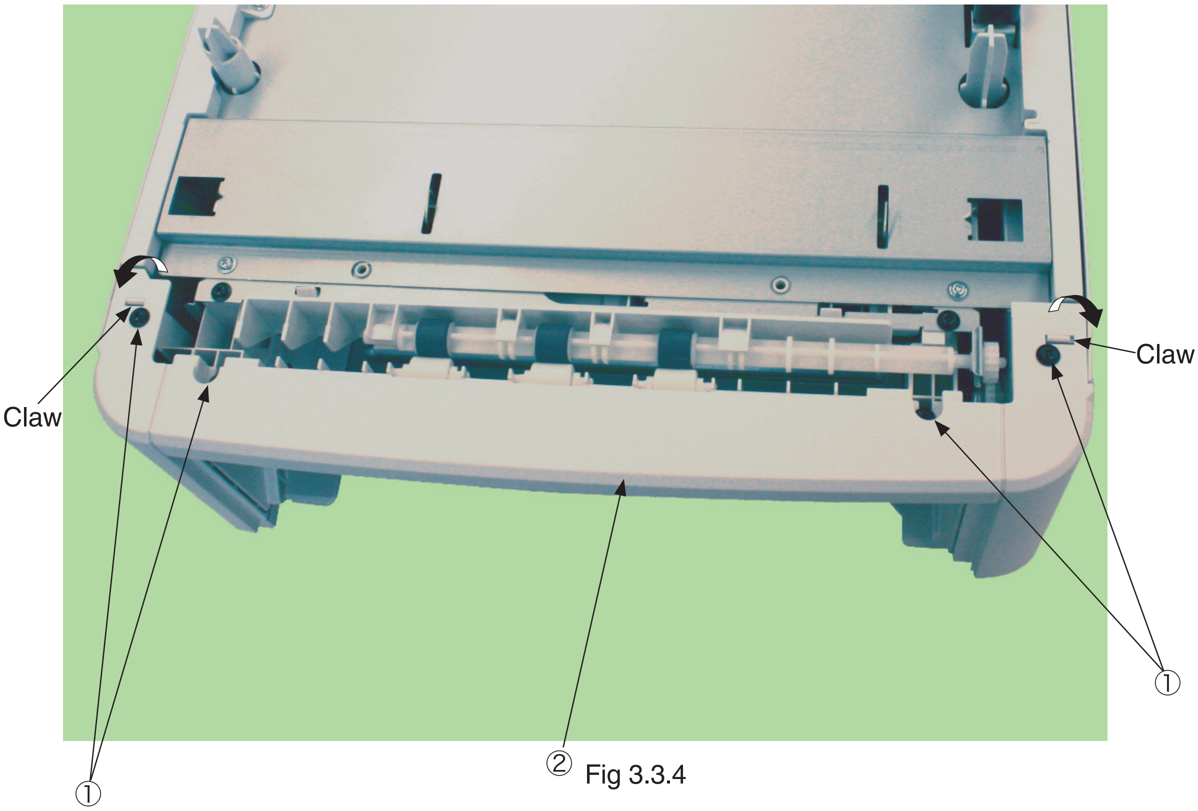


Fig 3.3.4

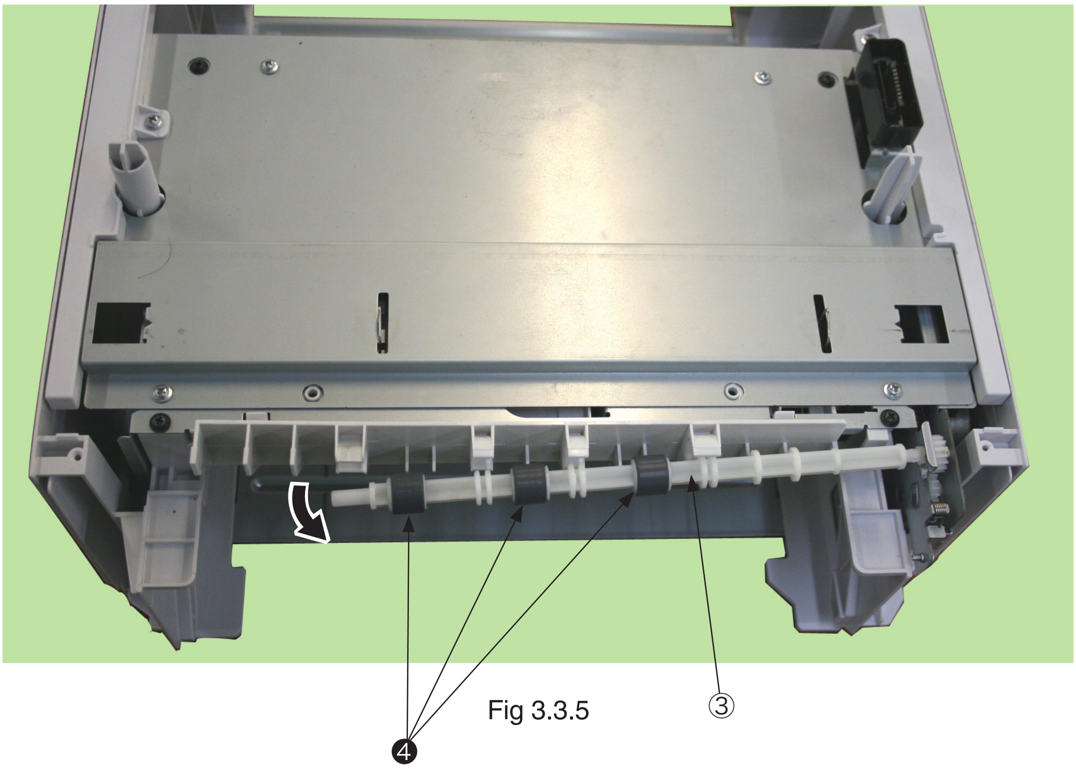


Fig 3.3.5

3.3.4 Board-OT7

(1) Turn off the printer and pull the AC cord. Remove the printer from the device.

(2) Remove two Screw-Shoulders ①.

(3) Remove two screws (silver) ② to remove two Cover-Top-Pot ③.

(4) Remove four screws (silver) ④ to remove Plate-Top ⑤.

(5) Disconnect the three connectors ⑥, and remove three screws ⑦ to Board-OT7 ❽.

(6) As for reinstalling, take the opposite sequence to removal sequence.

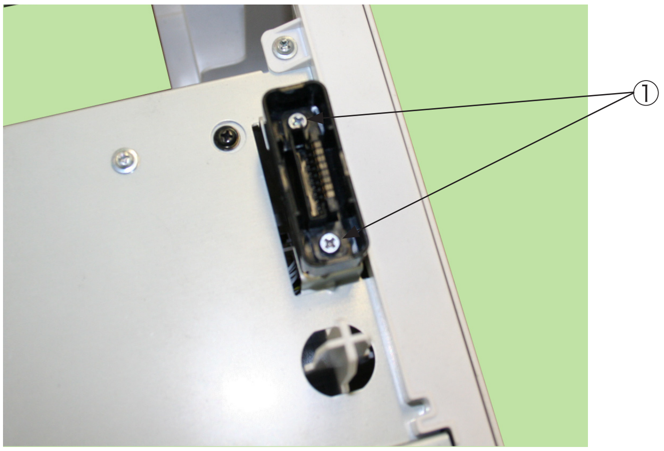


Fig 3.3.6

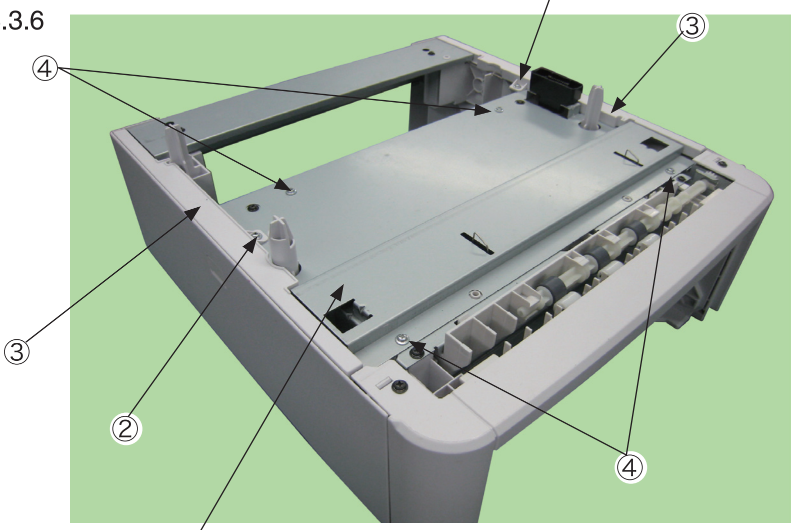


Fig 3.3.7

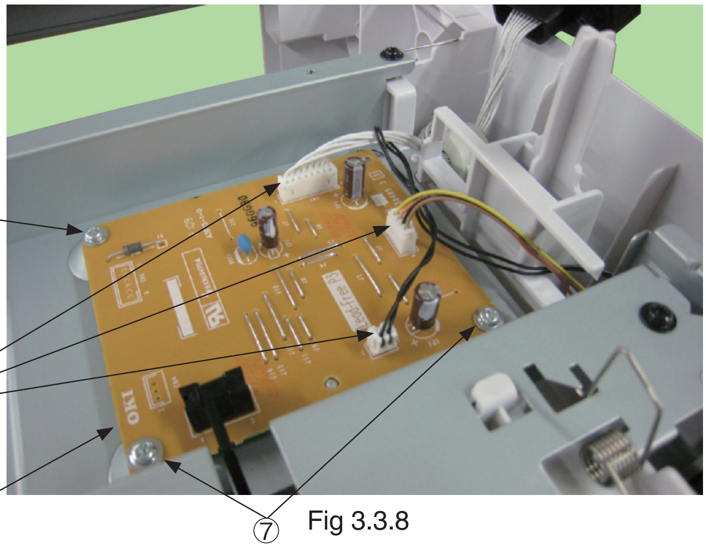


Fig 3.3.8

3.3.5 CONN Cord-AMP8P-AMP8P

(1) Turn off the printer and pull the AC cord. Remove the printer from the device.

(2) Remove Plate-Top. (See 3.3.4 (2) to (4))

(3) Remove the screw (Black) that is for fixing the core.

(4) Disconnect the connector ① at the Connector (9715S-08Z02-G4C) and disconnect the connector ② at Board-OT7 to remove CONN-Cord-AMP8P-AMP8P ❸.

(Both Guard-Connector and Connector (9715S-08Z02-G4C) are removed together.)

(5) As for reinstalling, take the opposite sequence to removal sequence.

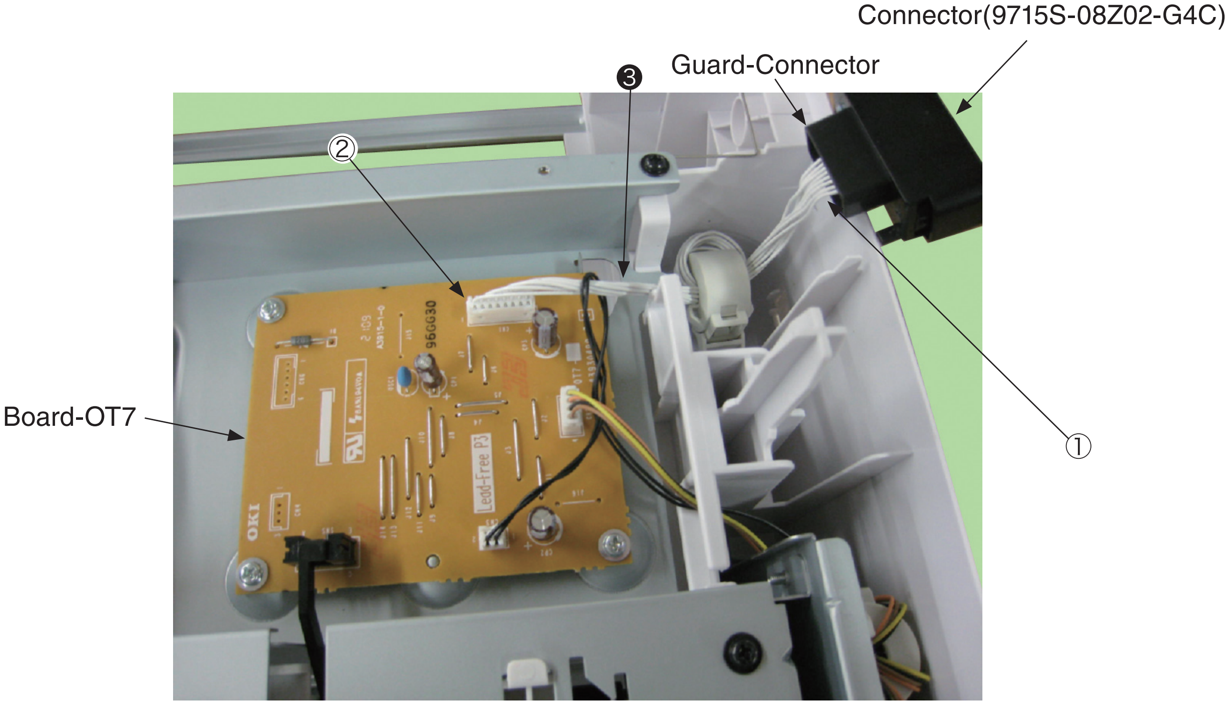


Fig 3.3.9

3.3.6 Gear-Assy-Clatch

(1) Turn off the printer and pull the AC cord. Remove the printer from the device.

(2) Remove Plate-Top. (See 3.3.4 (2) to (4))

(3) Remove four screws (black) ①, and remove the clamps of two claws to remove Cover-Front ②.

(4) Disconnect two connectors ③.

(5) Remove five screws (black) ④ and two screws (silver) ⑤ to remove Plate-Hop (Caulking)-Assy ⑥.

(6) Remove the cable from Clamp-Cable ⑦, and remove E ring ⑧ to remove Bear-Assy-Clatch ❾.

(7) As for reinstalling, take the opposite sequence to removal sequence.

(Precautions on reinstalling)

1. When reinstalling Plate-Hop (Caulking)-Assy ⑥, check that Lever-Paper-End is in a position shown in the figure for the sensor of Board-OT7.

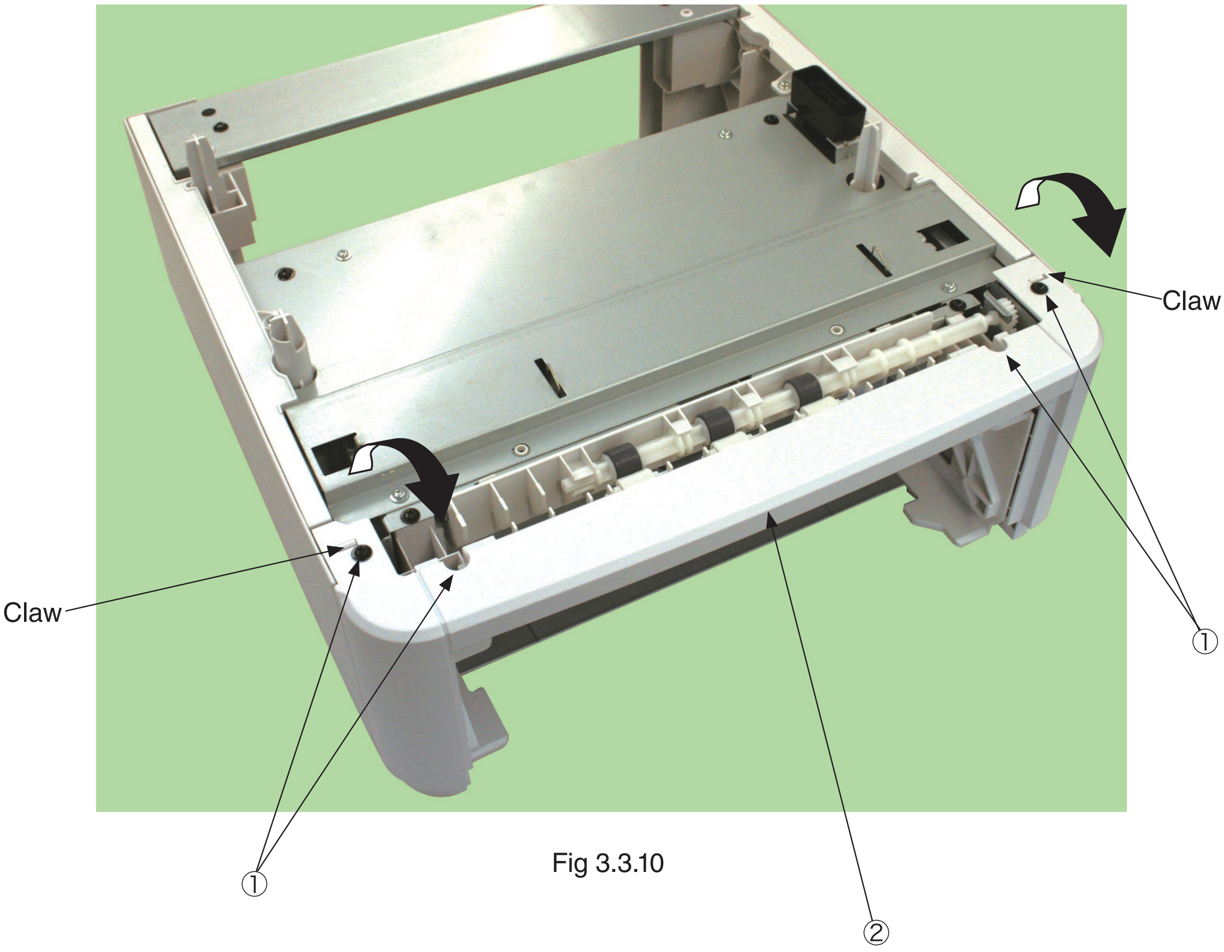


Fig 3.3.10

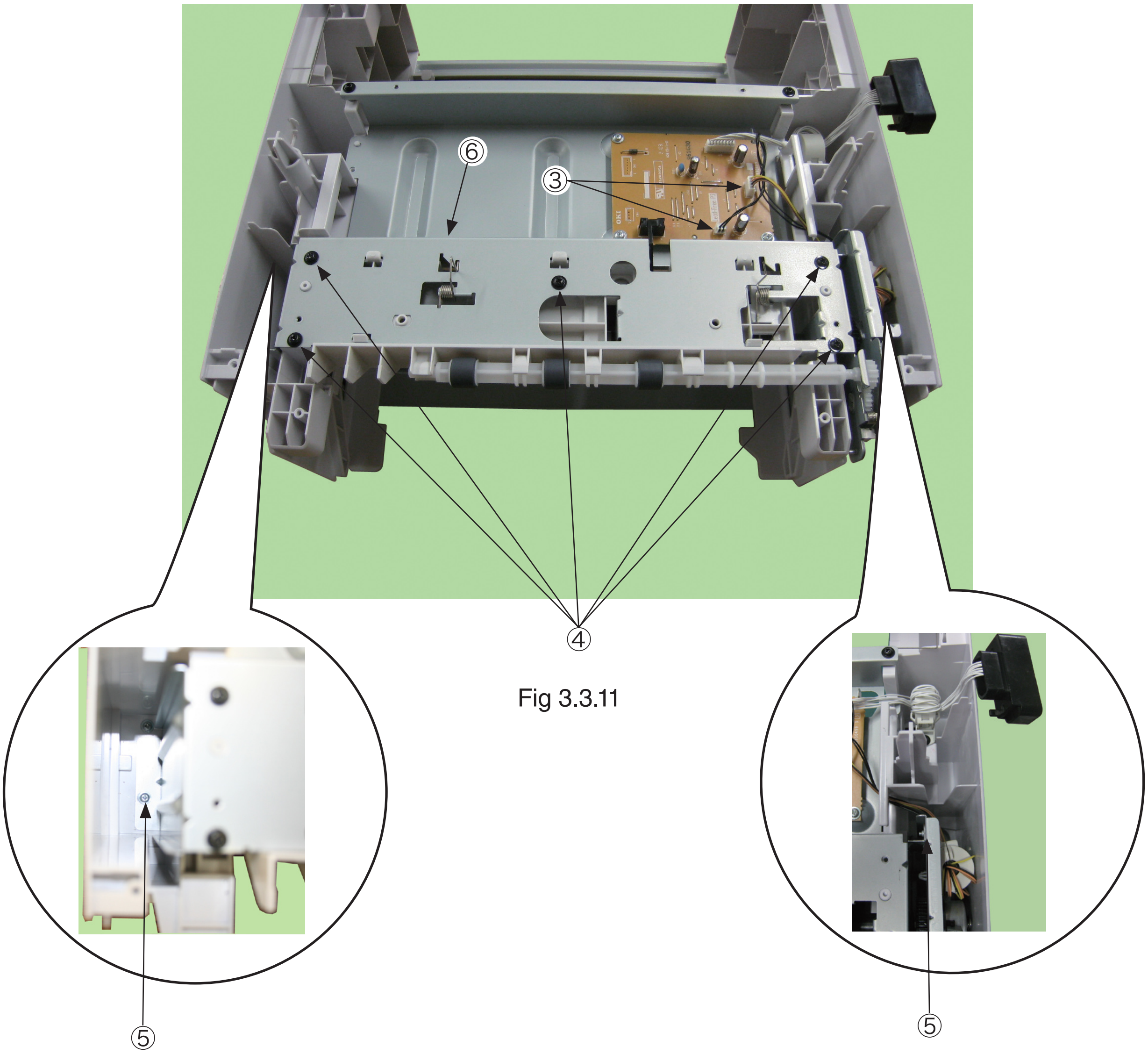


Fig 3.3.11

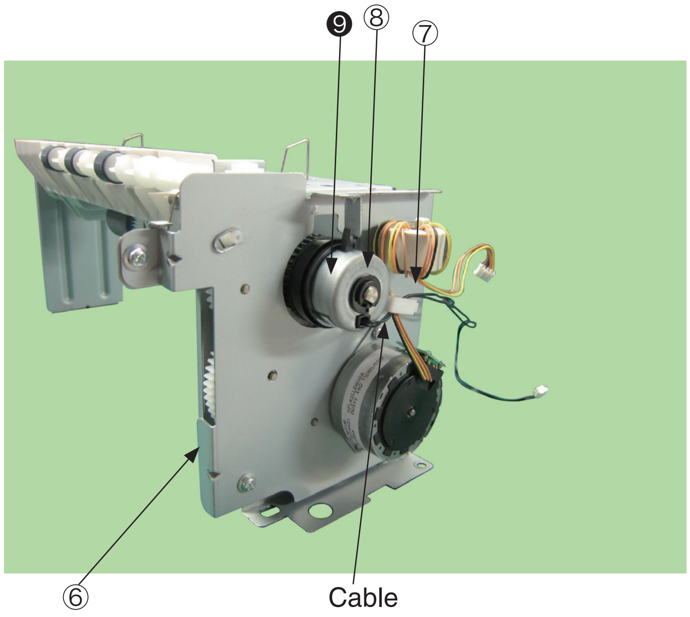
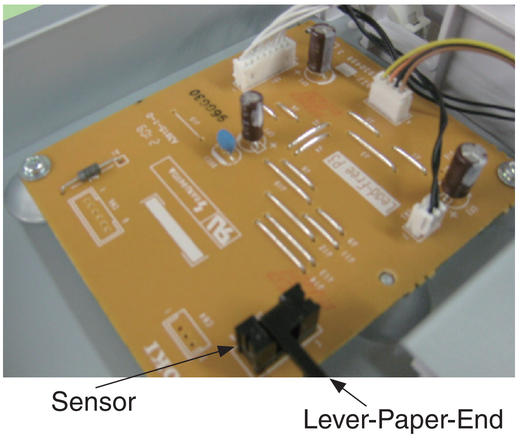


Fig 3.3.12

Positions of Lever-Paper-End and Sensor


Sensor
Lever-Paper-End

The top of the Lever-Paper-End should be in the groove of the sensor.

Fig 3.3.13

3.3.7 Frame-Assy-Retard, Spring-Retard

(1) Detach Cassette-Assy.

(2) Push two claws in the direction of the arrow to remove Retard-Cover ①.

(3) Push Frame-Assy Retard ❷ in the direction of the arrow. (Spring-Retard ❸ is also removed together.)

(4) As for reinstalling, take the opposite sequence to removal sequence.

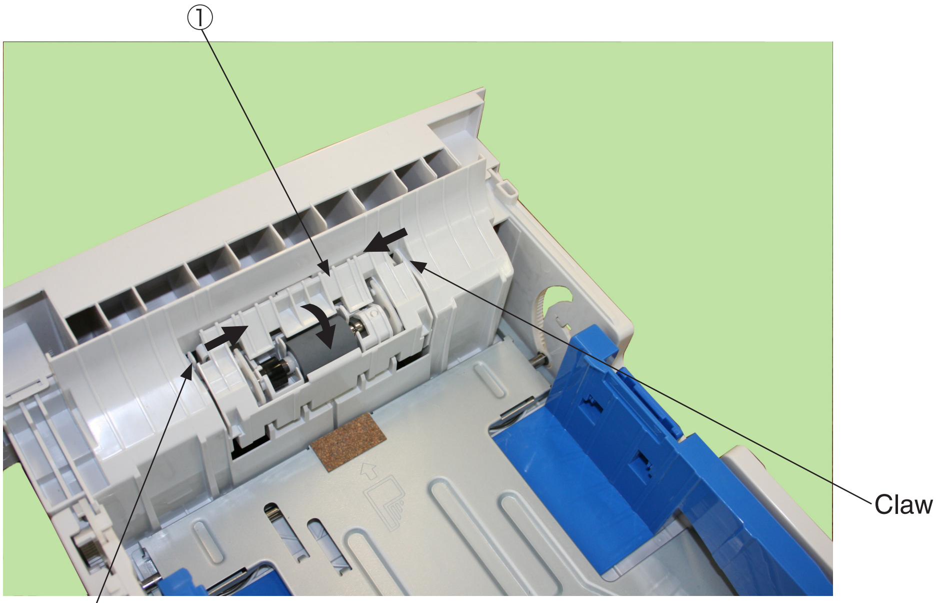
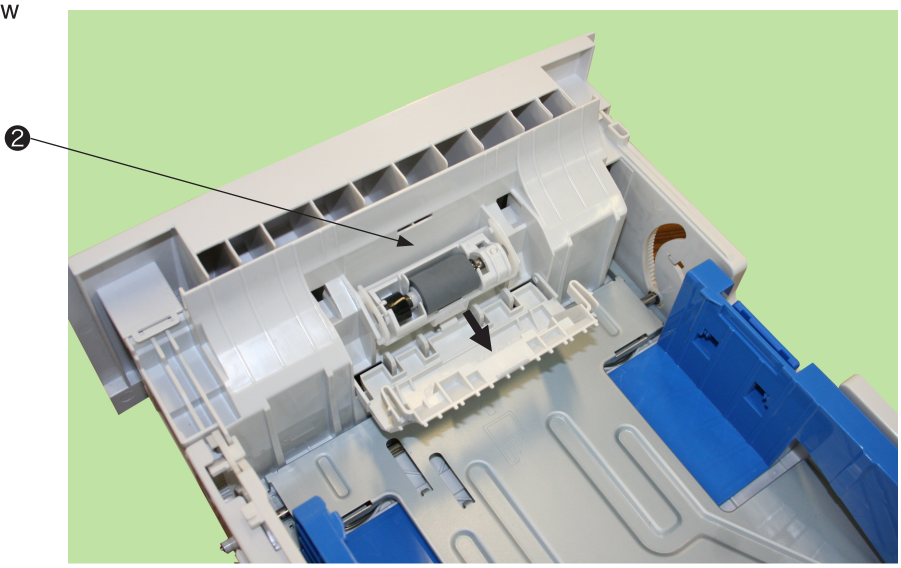


Fig 3.3.14



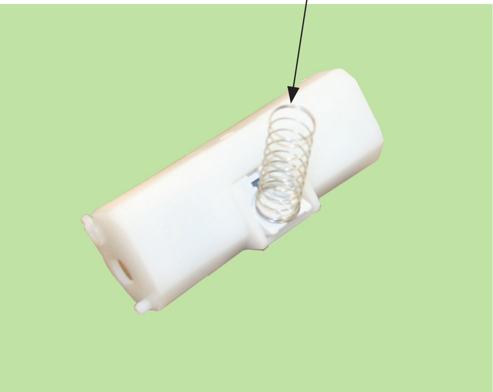


Fig 3.3.16

4. Cleaning of Paper Feed Roller and Separation Roller

Clean the rollers when [392: Paper Jam] often occurs.

(1) Pull the paper cassette.

(2) Wipe off paper-feed rollers (two rollers) with a wet cloth which is wrung or LED lens cleaner.

Memo! The LED lens cleaner is attached with the toner cartridge for the replacement.

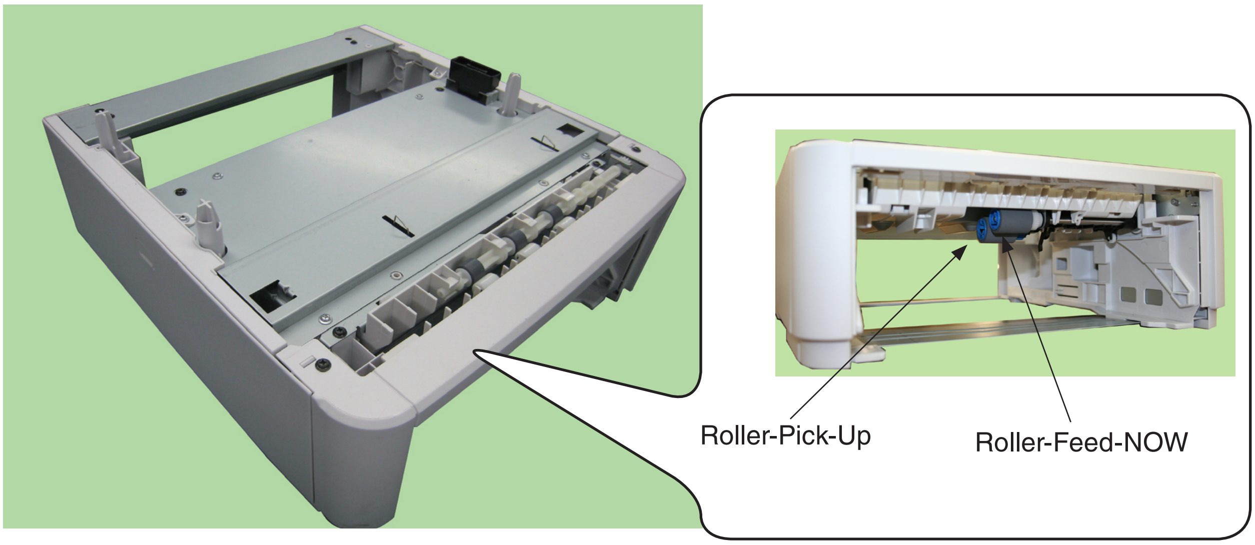


Fig 4.1.1

(3) Open Retard-Cover of the paper cassette, and wipe off the separation roller with a wet cloth which is wring or LED lens cleaner. (See Restard-Cover for how to open it.)

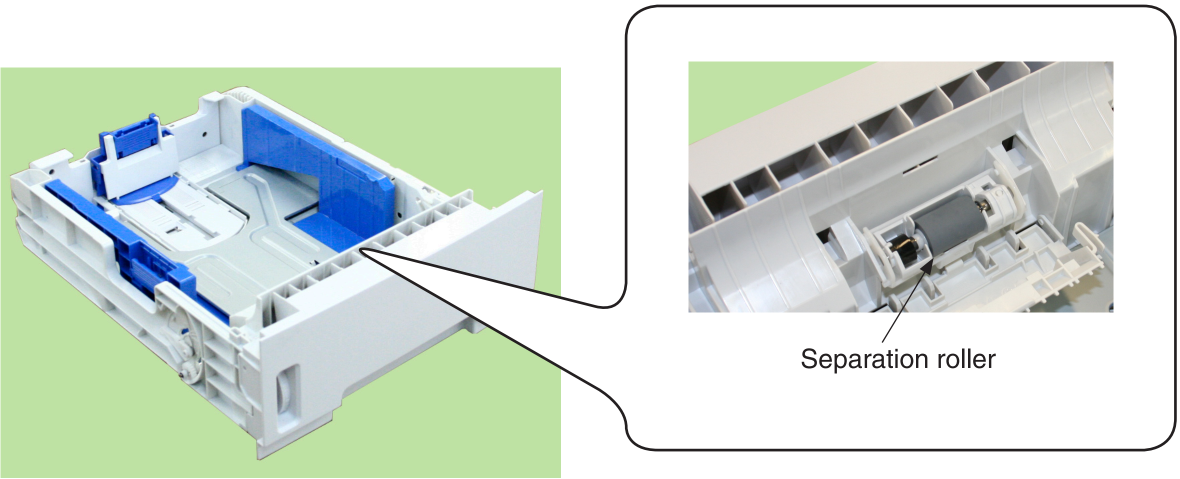


Fig 4.1.2